

CONSULTING, SERVICES AND SOLUTIONS GROUP, INC.

PRESENTS

The
Standards of Learning Assessment Resource System XII



In Response To
Virginia Department of Education
Student Growth Assessments
RFP #: DOE-SGA-2012-15

TABLE OF CONTENTS

TAB 1 – SIGNATURE PAGE AND ADDENDUM	3
TAB 2 – PRICING SCHEDULE	6
TAB 3 – WRITTEN NARRATIVE	7
THE CASE FOR CONSULTING, SERVICES AND SOLUTIONS GROUP	7
COMPANY ORGANIZATIONAL STRUCTURE / EVIDENCE OF EXPERIENCE	15
COMPREHENSIVE IMPLEMENTATION PLAN (INCLUDING CONFIDENTIALITY MAINTENANCE)	18
COMPREHENSIVE TRAINING PLAN	25
REFERENCES	29
TAB 4 – OTHER INFORMATION	31
TRADE SECRETS AND/OR PROPRIETARY INFORMATION	31
OWNERSHIP OF MATERIAL / VIRGINIA FREEDOM OF INFORMATION ACT	31
STANDARDS OF LEARNING ASSESSMENT RESOURCE XII SUITE LICENSE AGREEMENT	31
TAB 5 – ATTACHMENT 1 – SMALL BUSINESS SUBCONTRACTING PLAN.....	37
TAB 6 – ATTACHMENT 2 – STATE CORPORATION COMMISSION FORM.....	40
TAB 7 – ATTACHMENT 3 – ASSESSMENT DESCRIPTION TEMPLATES	41
TAB 8 – EXHIBIT 1.2	60
TAB 9 – EXHIBIT 4.2	282
TAB 10 – EXHIBIT 4.4	283
TAB 11 – EXHIBIT 5.2	284

TAB 1 – SIGNATURE PAGE AND ADDENDUM

The Balance of This Page Left Blank Intentionally

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF EDUCATION
REQUEST FOR PROPOSAL (RFP)**

Issue Date: September 25, 2012

RFP# DOE-SGA-2012-15

Title: Student Growth Assessments

Commodity Code: 92420

Issuing Agency: Commonwealth of Virginia
Virginia Department of Education
101 North 14th Street, 21st Floor
Richmond, Virginia 23219

Using Agencies: Local Education Agencies including
Virginia Public School Divisions and
Virginia Public Schools

Work to be Performed: Offsite

Initial Period Of Contract: From Date of Award Through November 15, 2014; (Renewable).

Sealed Proposals Will Be Received Until 2:00 PM October 29, 2012, For Furnishing The Goods/Services Described Herein.

All Inquiries For Information Should Be Directed To: Marie Williams, Contract Officer, at (804) 225-2040.

PROPOSALS MUST BE DELIVERED TO THE JAMES MONROE BUILDING, 101 N. 14TH STREET, RICHMOND, VA, 23219, 21ST FLOOR, PROCUREMENT OFFICE, TO THE ATTENTION OF MONIQUE ROBINSON (See Section VIII, C. Identification of Proposal Envelope.) This is NOT a mailing address. It is recommended that proposals be hand delivered.

In compliance with this Request For Proposals (RFP) and all conditions imposed in this RFP, the undersigned firm hereby offers and agrees to furnish all goods and services in accordance with the attached signed proposal or as mutually agreed upon by subsequent negotiation, and the undersigned firm hereby certifies that all information provided below and in any schedule attached hereto is true, correct, and complete.

Name And Address Of Firm:

Consulting, Services and Solutions Group, Inc.

9926 Main St.

Fairfax, VA

Zip Code: 22031

eVA Vendor ID or DUNS #: 002609589

Fax Number: (703) 385-2063

E-mail Address: ejsatterwhite@cssg.com

Date: October 29, 2012

By: _____

(Signature In Ink)

Name: Ernie Satterwhite

(Please Print)

Title: Managing Executive Director

Telephone Number: (703) 385-2008

PREPROPOSAL CONFERENCE: An optional proposal conference will be held on Tuesday, October 9, 2012, at 10:00 am at 101 N. 14th Street, 25th Floor, Washington Conference Room (Reference Page 7, Section VII, herein). If special ADA accommodations are needed, please contact Marie Williams at 804 225-2040 by October 5, 2012.

Note: This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

TAB 2 – PRICING SCHEDULE

For each assessment offered, using the scenario of 5,000 tests, the required information, a fixed cost, a price per test, and the resulting total must be provided using the table layout below. For example, in column 1, enter the attachment number for the assessment for which you are indicating a price. The first number listed in column 1 will be “3,” as attachment numbers 1 and 2 are not related to the specific assessments being offered. No other pricing schedule will be accepted.

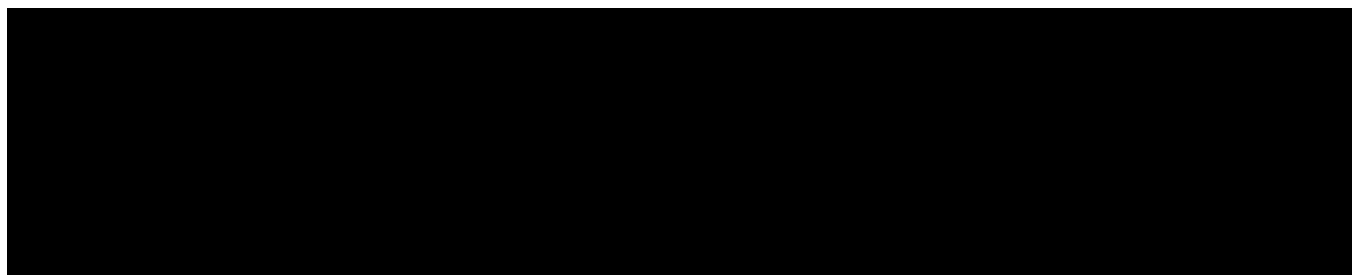
A. Assessment Description Attachment #	B. Name of Assessment	C. Content area	D. Fixed Price	E. Additional Price per Test	F. Total (Fixed Price + (5,000 * Additional Price per Test))
Copies of Assessments Binder “Mathematics Assessments Tab”	Student Growth Mathematics Assessments	Mathematics Grades 2-8 Algebra I Algebra II Geometry	0	\$3.75 Per Student	\$18,750.00
Copies of Assessments Binder “English Assessments Tab”	Student Growth English Assessments	Reading Grades 3-11 Writing Grades 3-11	0	\$3.75 Per Student	\$18,750.00
Copies of Assessments Binder “History Assessments Tab”	Growth History Assessments	Social Studies Grades 3 Virginia Studies USI & USII Civics and Econ. World I and II US VA	0	\$3.75 Per Student	\$18,750.00
Copies of Assessments Binder “Science Assessments Tab”	Student Growth Science Assessments	Science Grades 3-6 Life Science Physical Science Earth Science Biology Chemistry	0	\$3.75 Per Student	\$18,750.00
Copies of Assessment Binder ALL ASSESSMENTS	All of the Assessments Above	All Content Areas Above	0	\$6.75 Per Student	\$33,750.00
Scan Paper If Paper Based Testing	Any Assessment	Any Content Area	0	\$0.10	\$500.00
NWEA Formative Assessment Item Bank	Access to Math or English or Science	Access to Math or English or Science	0	\$6.00 Per Student	\$30,000.00

TAB 3 – WRITTEN NARRATIVE

THE CASE FOR CONSULTING, SERVICES AND SOLUTIONS GROUP







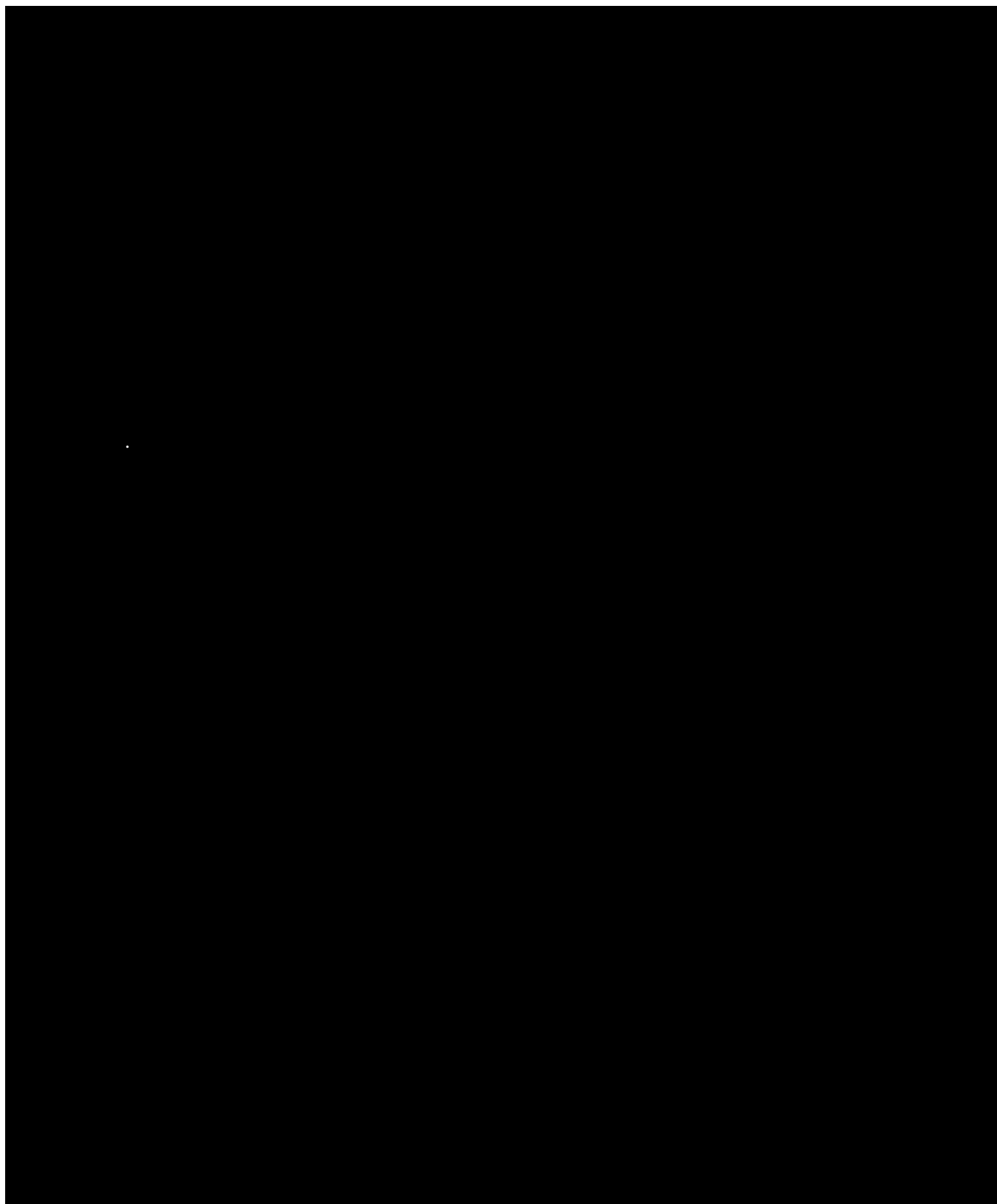


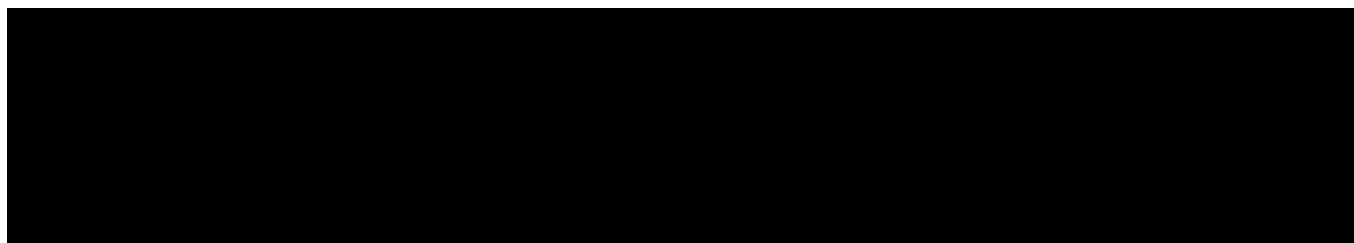


<http://www.visualsi.com/customers/cssg.htm>

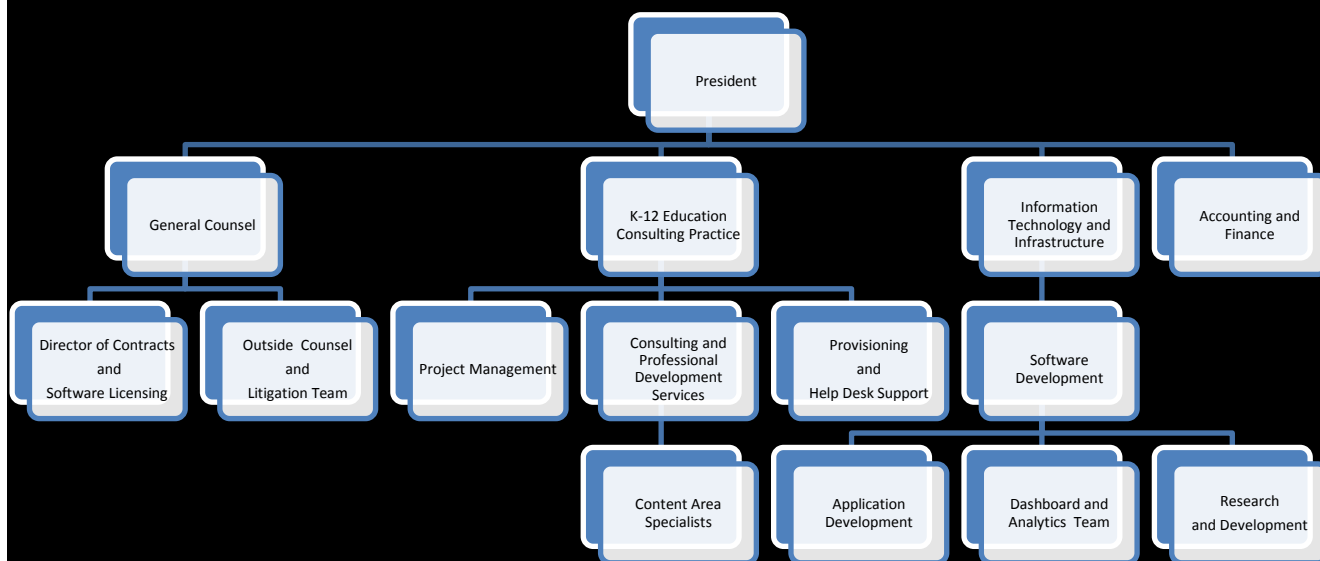
in the "bind" operation.

authentication information supplied

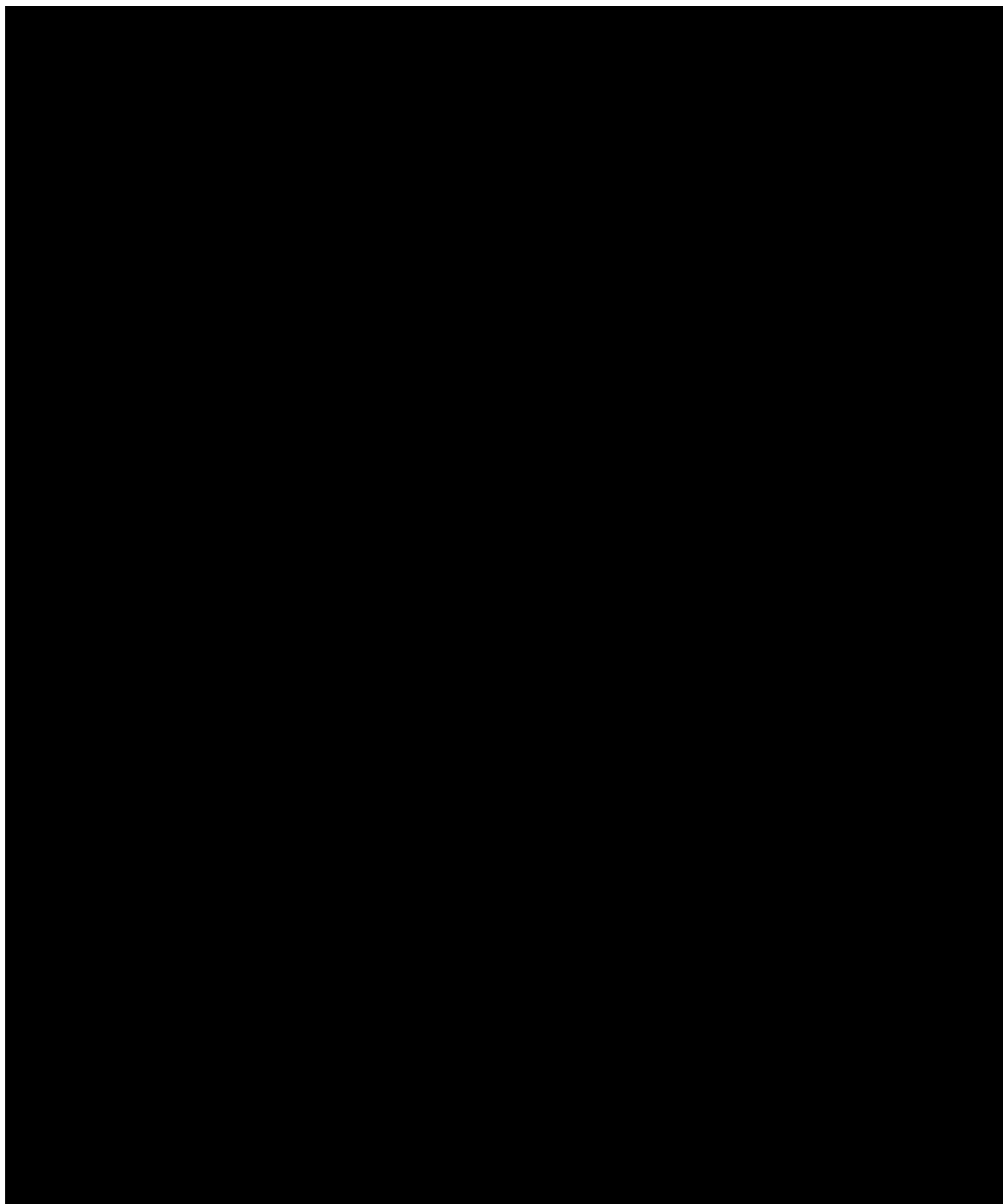


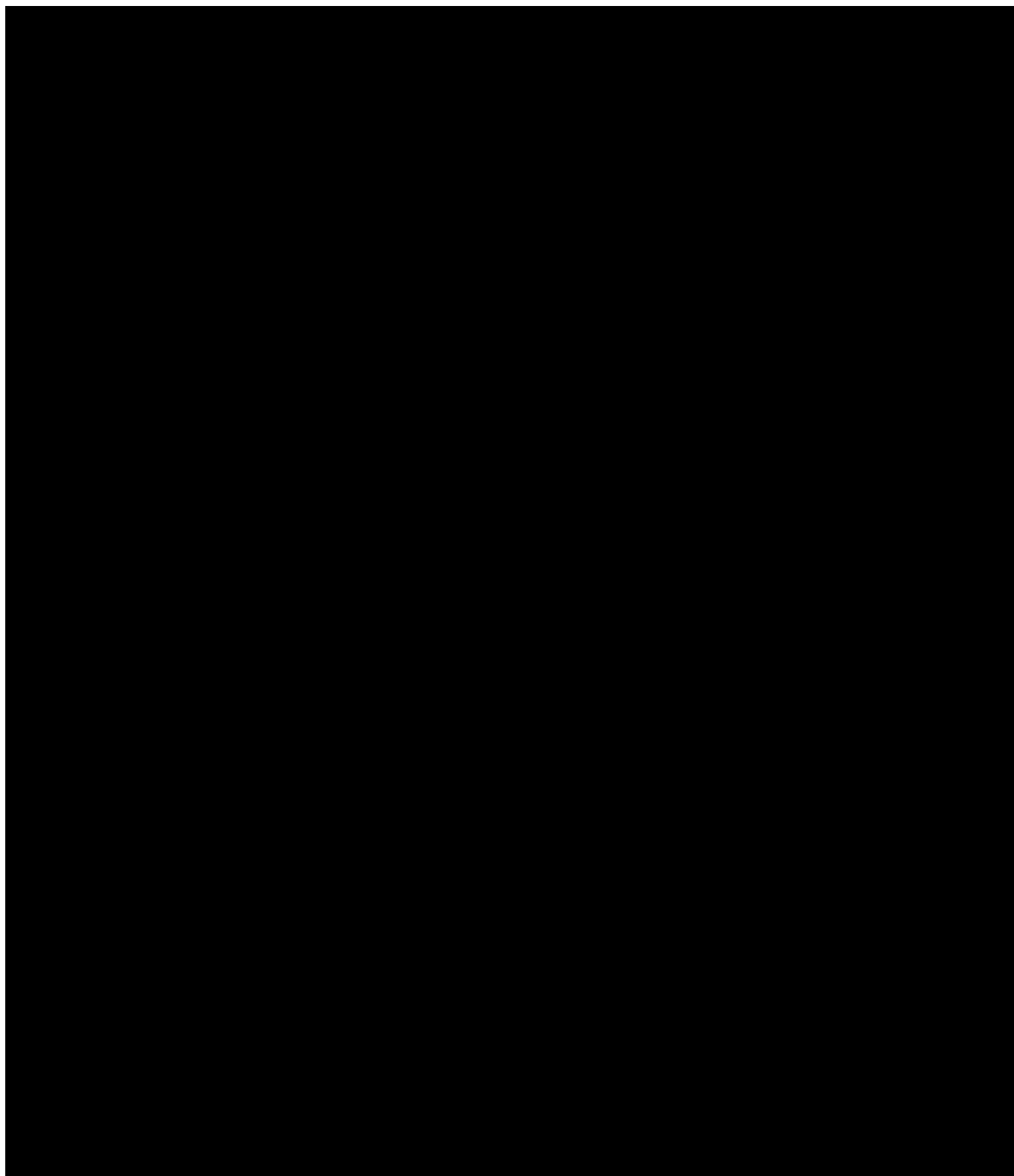


COMPANY ORGANIZATIONAL STRUCTURE / EVIDENCE OF EXPERIENCE



KEY PROFESSIONAL STAFF ROLES

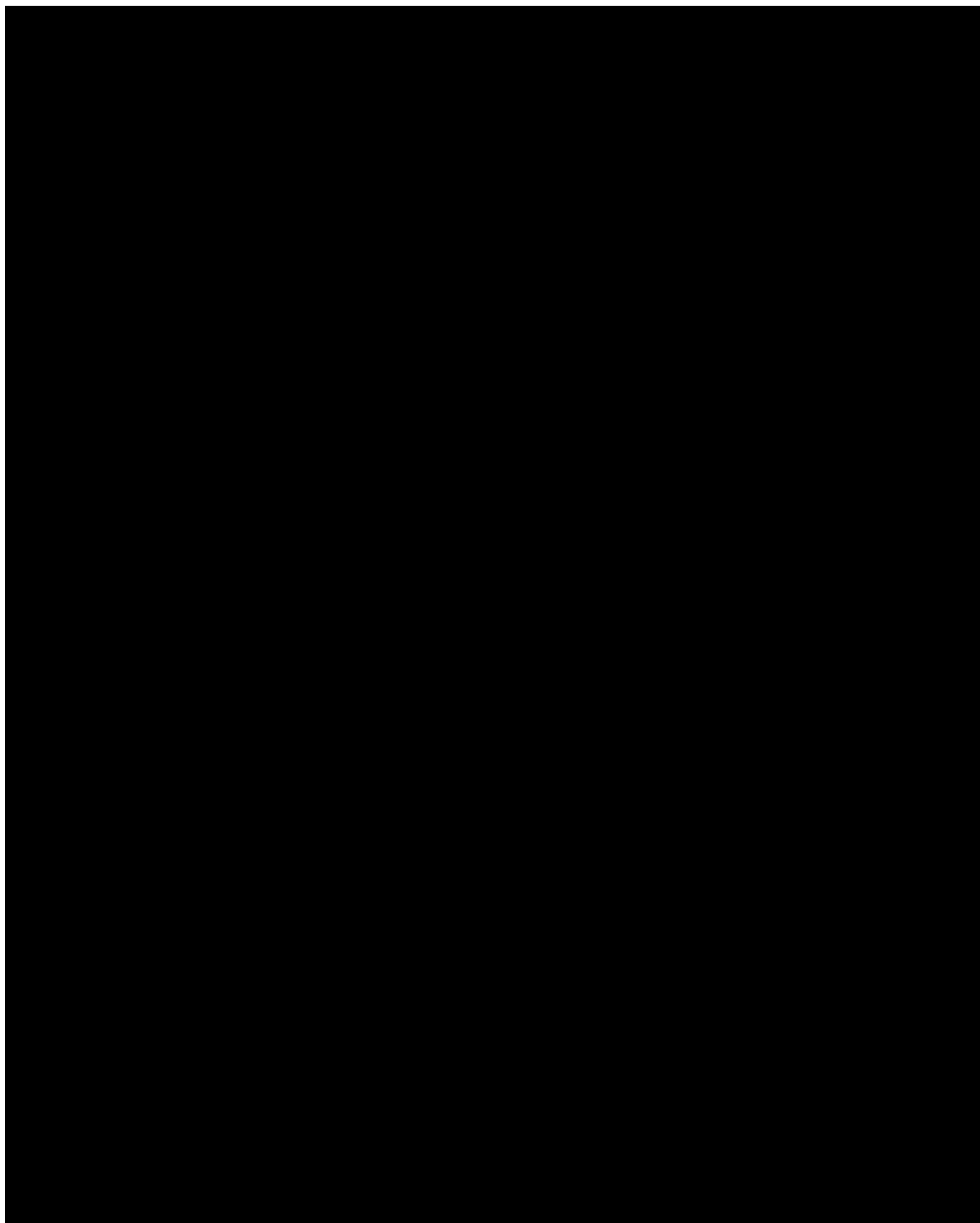


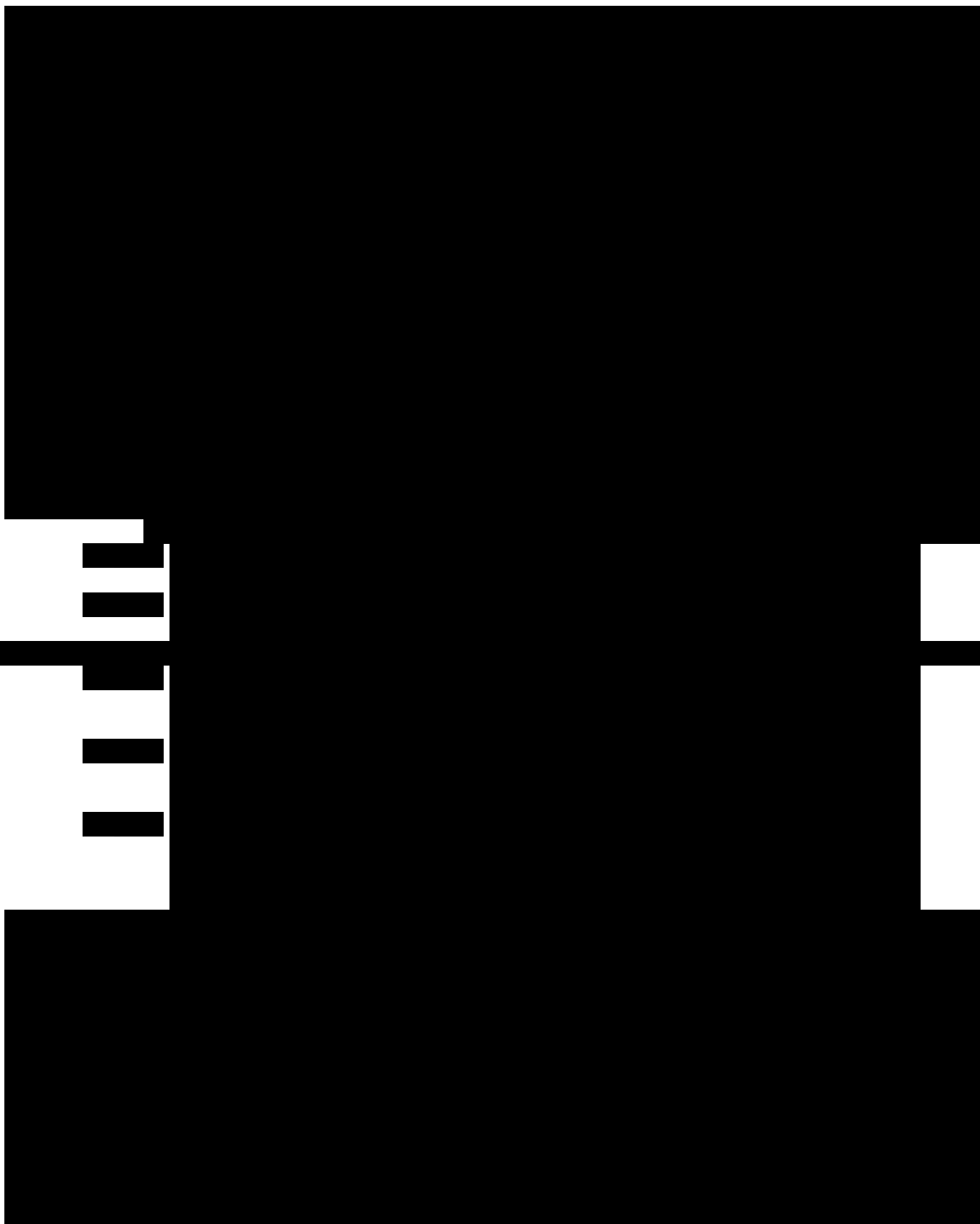


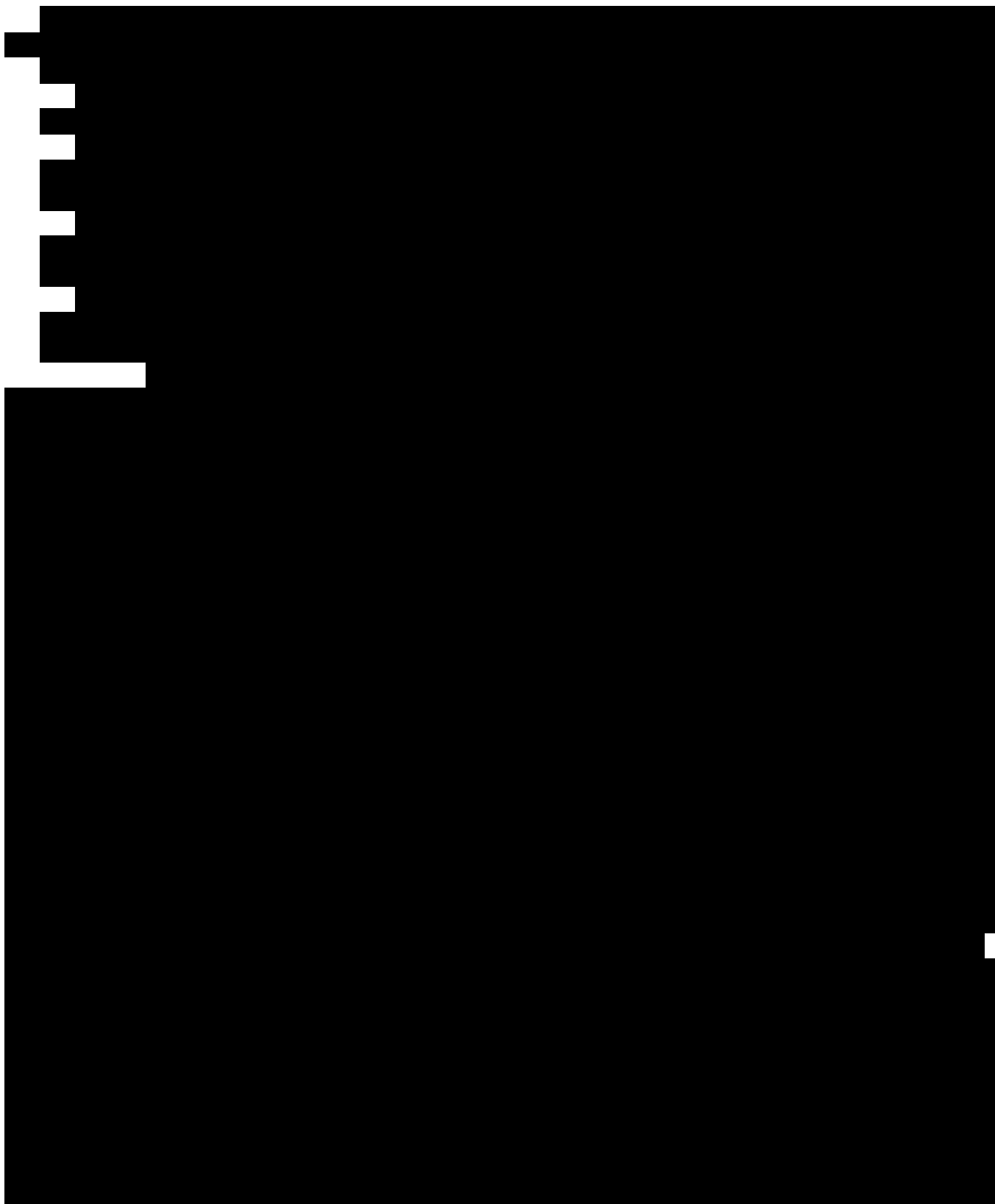
WORK BREAKDOWN STRUCTURE

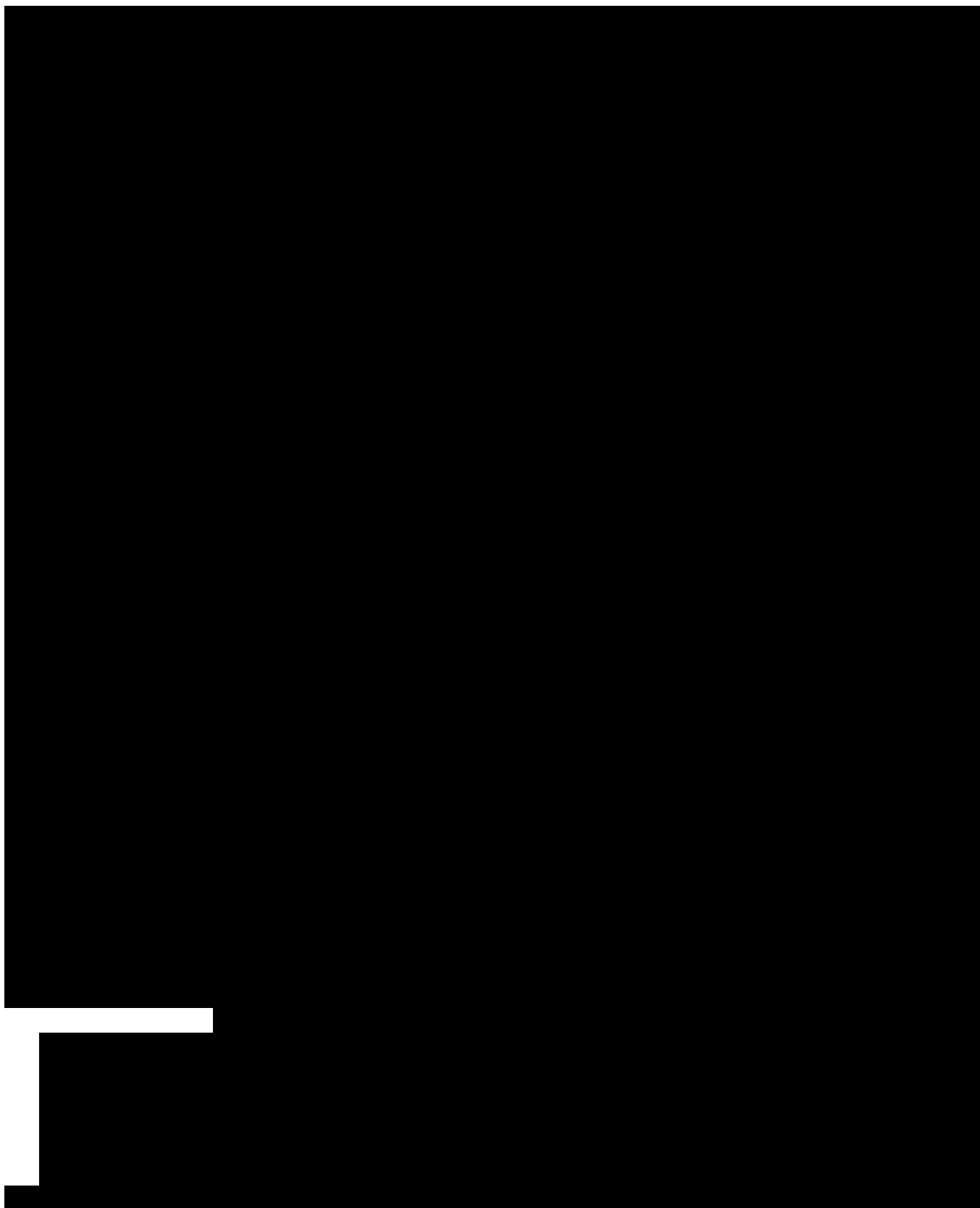


, class or homeroom, grade level,







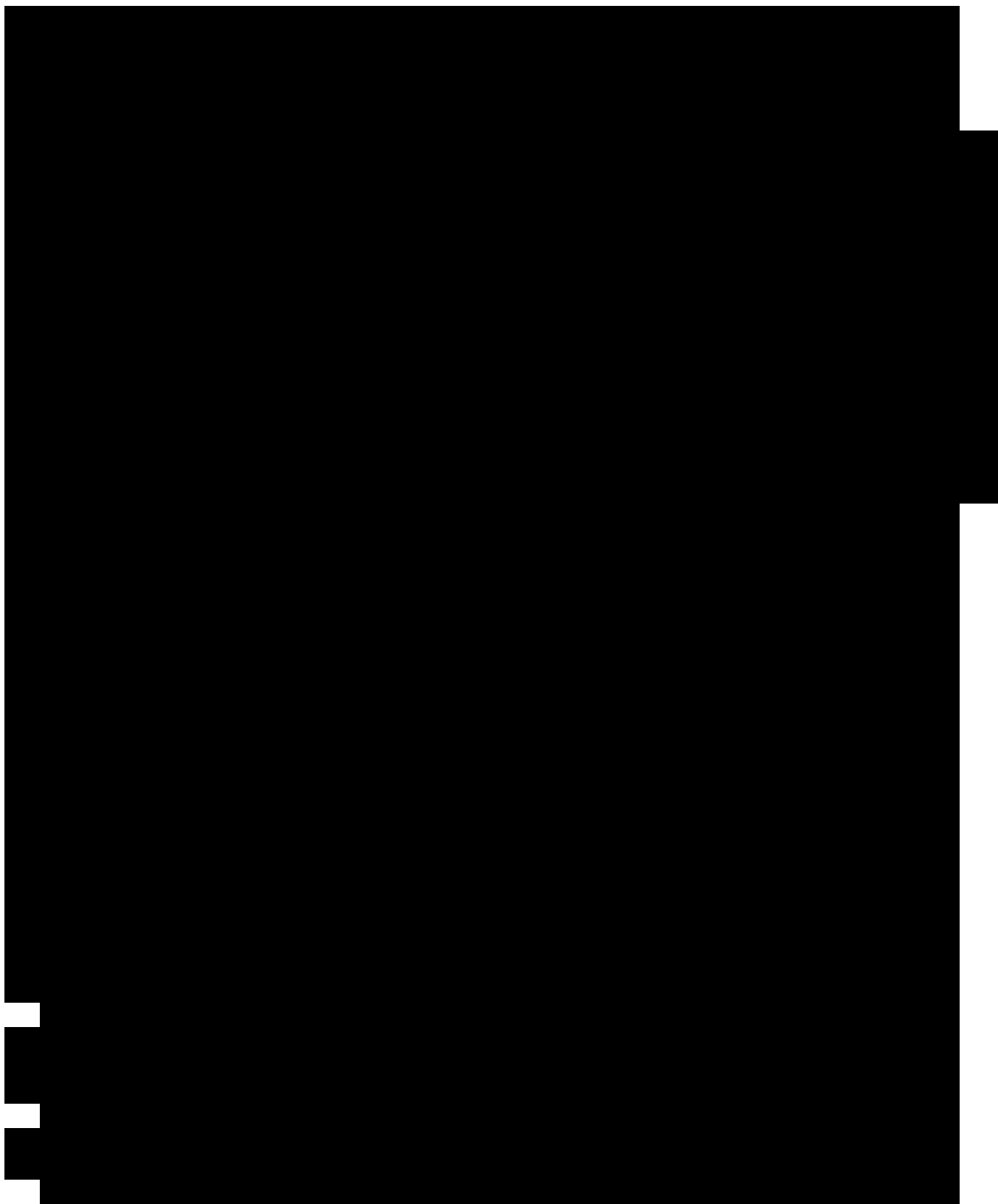


[REDACTED]

[REDACTED]

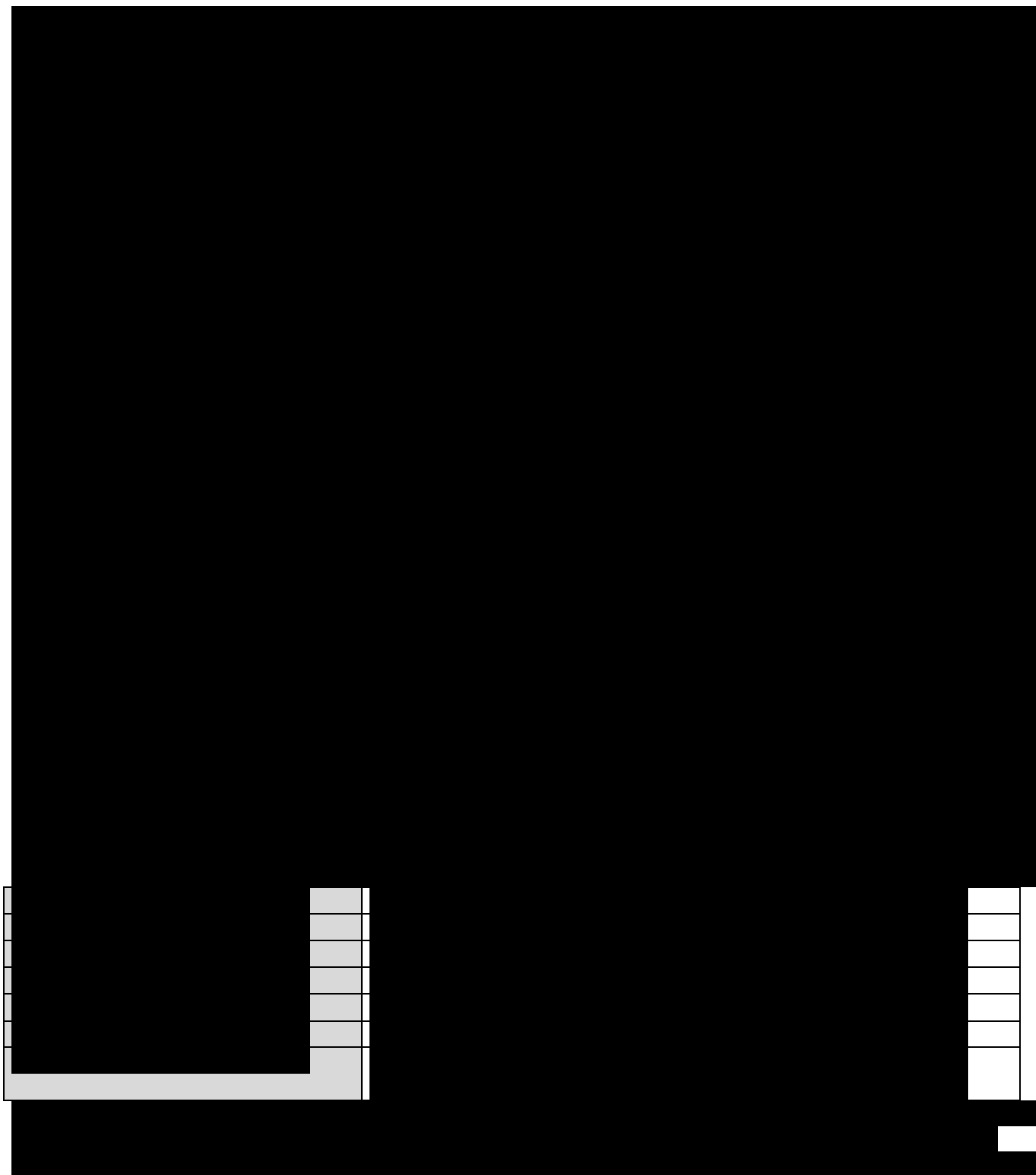
[REDACTED]

Identify main idea of selection”.









[illegible]

TAB 4 – OTHER INFORMATION

TRADE SECRETS AND/OR PROPRIETARY INFORMATION

The following sections of this RFP response are proprietary and confidential and shall not be subject to public disclosure under the Virginia Freedom of Information Act; we also hereby invoke the protections of Section 2.2-3700 of the Code of Virginia.

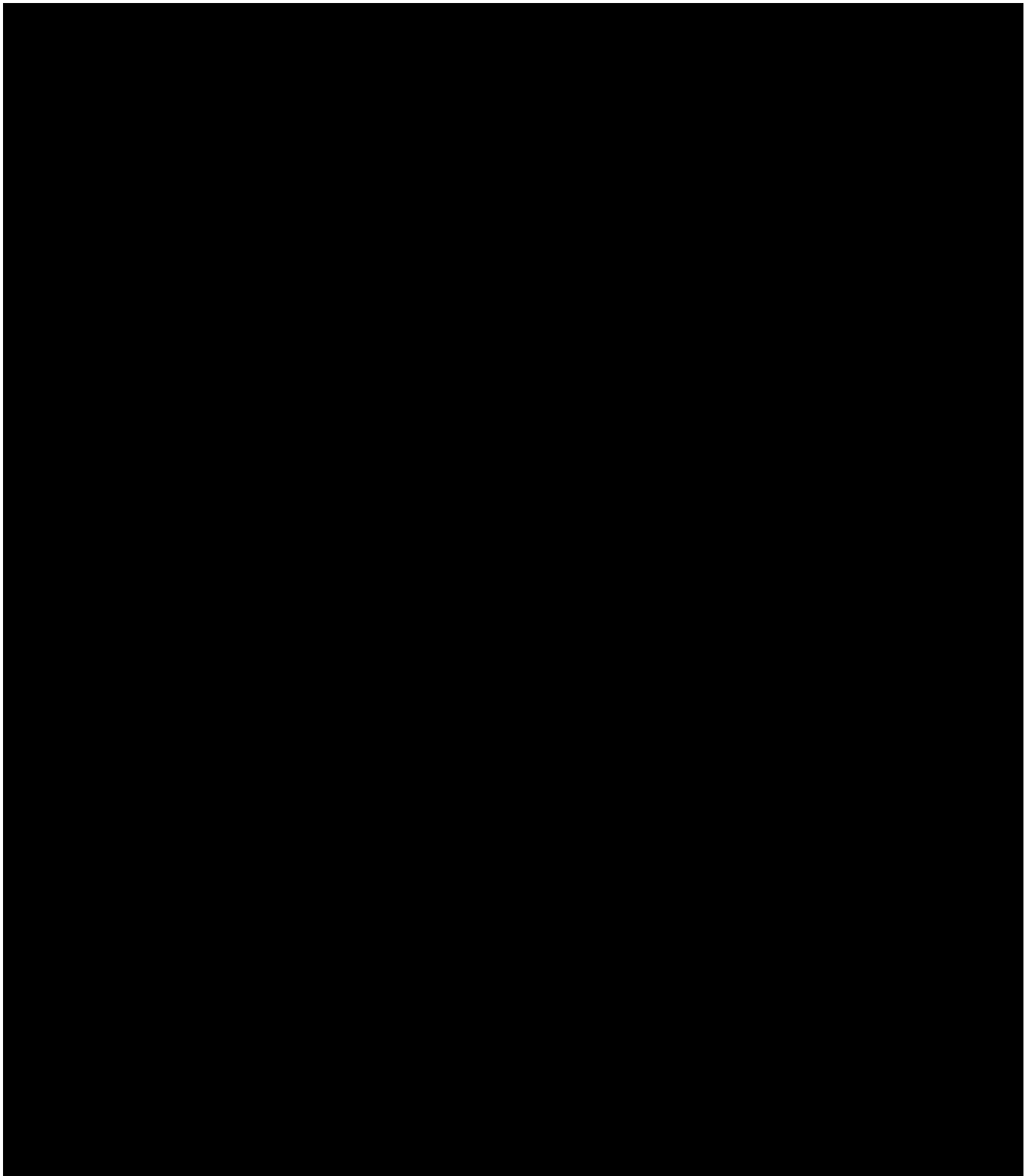
- Tab 3 – Written Narrative
- Tab 4 – Licensing Agreement
- Tab 7 – Attachment 3 – Assessment Description Templates
- Tab 8 – Exhibit 1.2
- Tab 9 – Exhibit 4.2
- Tab 10 – Exhibit 4.4
- Tab 11 – Exhibit 5.2
- Copies of Assessments Binder

OWNERSHIP OF MATERIAL / VIRGINIA FREEDOM OF INFORMATION ACT

Consulting, Services and Solutions Group, Inc. retains all copyrights, patent rights to all papers, reports, forms, materials, creations, or inventions pre-owned, developed and used to satisfy the needs and requirements of the school division with its commercial-off-the-shelf software product and all derivative works.

STANDARDS OF LEARNING ASSESSMENT RESOURCE XII SUITE LICENSE AGREEMENT

The licensing terms and conditions are found on the next pages.



1.1

1.2

1.3

1.4

1.5

1.6

1.7

2.
2.1

2.2

2.3

2.4

2.5

2.6

2.7

2.8

2.9

3.
3.1

3.2

3.3

3.4

4.
4.1

4.2

4.3

5.
5.1

5.2

5.3

5.4

6.

7.
7.1

7.2

7.3

7.4

8.
8.1

8.2

8.3

8.4

8.5

8.6

8.7

8.8

8.9

8.10

8.11

8.12

8.13

TAB 5 – ATTACHMENT 1 – SMALL BUSINESS SUBCONTRACTING PLAN

Definitions

Small Business: —Small business means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years. Note: DMBE-certified women- and minority-owned businesses shall also be considered small businesses when they have received DMBE small business certification.

Women-Owned Business: Women-owned business means a business concern that is at least 51% owned by one or more women who are citizens of the United States or noncitizens who are in full compliance with United States immigration law, or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or noncitizens who are in full compliance with United States immigration law, and both the management and daily business operations are controlled by one or more women who are citizens of the United States or noncitizens who are in full compliance with the United States immigration law.

Minority-Owned Business: Minority-owned business means a business concern that is at least 51% owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

All small businesses must be certified by the Commonwealth of Virginia, Department of Minority Business Enterprise (DMBE) to participate in the SWAM program. Certification applications are available through DMBE online at www.dmb.virginia.gov (Customer Service).

Offeror Name: Consulting, Services and Solutions Group, Inc.

Preparer Name: Ernie Satterwhite

Date: October 29, 2012

Instructions

- A. If you are certified by the Department of Minority Business Enterprise (DMBE) as a small business, complete only Section A of this form. This shall include DMBE-certified women-owned and minority-owned businesses when they have received DMBE small business certification.
- B. If you are not certified by DMBE as a small business and plan to subcontract part of this contract with a DMBE certified business, complete only Section B of this form.
- C. If you are not certified by DMBE as a small business and cannot identify any subcontracting opportunities to subcontract part of this contract with a DMBE-certified business, only provide the information requested in Section C of this form.

Section A

If your firm is certified by the Department of Minority Business Enterprise (DMBE), are you certified as a (check only one below):

- ☐ Small Business
☐ Small and Women-owned Business
☐ Small and Minority-owned Business

Certification number:

Certification date:

Section B

Populate the table below to show your firm's plans for utilization of DMBE-certified small businesses in the performance of this contract. This shall include DMBE-certified women-owned and minority-owned businesses that meet the small business definition and have received the DMBE small business certification. Include plans to utilize small businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.

B. Plans for Utilization of DMBE-Certified Small Businesses for this Procurement

Small Business Name & Address DMBE Certificate #	Status if Small Business is also: Women (W), Minority (M)	Contact Person, Telephone & E-mail	Type of Goods and/or Services	Planned Contract Involvement	Planned Annual Contract Dollar Expenditure Amount
Teacher's Pet; An Education Consulting Practice, LLC 5104 Oakland Way Camp Springs, Maryland 20746 DMBE Certificate # 694592	M	Ms. Lydia Thompson 301-792-9934	K-12 Education Consulting and Professional Services	10 %	10% of annual contract dollar expenditure amount.
McJordan Consulting Services & Facilities Solutions Group, LLC 10577 Campus Way South, Upper Marlboro, MD 20774 DMBE Certificate # 694625	M	Mr. William McCreary (301) 758-6693	Professional Services	10%	10% of annual contract dollar expenditure amount.
Totals \$					

Section C

Respond to how your business has met or exceeded at least two of the following indicators within the past 24 months. Your response may include any good faith efforts made regarding this procurement.

C. Good Faith Effort Indicators by the Offeror

1. Identify areas of work your business has subcontracted to DMBE-certified small businesses for other contracts. Include company names, dates, dollar amounts, and percentages on a per contract basis.
2. List research efforts conducted by your business in the past to locate DMBE-certified small businesses by advertising in publications or in the classified section of the newspaper where small businesses are likely to see it. List specific publications and dates.
3. List small business outreach meetings, conferences, or workshops conducted by your firm to locate DMBE-certified small businesses—including the dates, participation numbers, and results.
4. Provide documented correspondence (i.e., certified mail, e-mail, receipt of fax transmissions, etc.) to small businesses from the lists provided by DMBE and other outreach agencies and organizations which indicates your solicitation of such for utilization of subcontracting opportunities on other contracts for which your business has competed.
5. List areas of work which your business has subcontracted with DMBE-certified small businesses for upcoming contracts—including the name of the business, certification number, dates, dollar amounts, and percentages on a per contract basis.
6. Provide documentation of any assistance offered to interested small businesses in obtaining bonds, lines of credit, and/or insurance for any present or past contracts your business has in place.
7. Provide documentation of follow-up on initial contacts with DMBE-certified small businesses (e.g., telephone call logs, e-mails, certified letters, etc.). Be sure to list the small business name and dates of contact.

TAB 6 – ATTACHMENT 2 – STATE CORPORATION COMMISSION FORM

Virginia State Corporation Commission (SCC) registration information. The offeror:

- ☒ Consulting, Services and Solutions Group, Inc. is a corporation or other business entity with the following SCC identification number: 0492558-2
-OR-
- ☐ is not a corporation, limited liability company, limited partnership, registered limited liability partnership, or business trust **-OR-**
- ☐ is an out-of-state business entity that does not regularly and continuously maintain as part of its ordinary and customary business any employees, agents, offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the offeror in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from offeror's out-of-state location) **-OR-**
- ☐ is an out-of-state business entity that is including with this proposal an opinion of legal counsel which accurately and completely discloses the undersigned offeror's current contacts with Virginia and describes why those contacts do not constitute the transaction of business in Virginia within the meaning of § 13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia.

****NOTE**** >> Check the following box if you have not completed any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for proposals (the Commonwealth reserves the right to determine in its sole discretion whether to allow such waiver).

TAB 7 – ATTACHMENT 3 – ASSESSMENT DESCRIPTION TEMPLATES**Offeror Name:** Consulting, Services and Solutions Group, Inc.**Proposed Assessment Name:** Standards of Learning Assessment Resource**Content Area(s) and Grade Level(s) Assessed:** English 2 – 11; Mathematics 2 – 8, Algebra 1, Algebra 2, Geometry; Science 3 – 6, Life Science, Physical Science, Earth Science, Biology and Chemistry; History 2 - 3 Virginia Studies, US History 1, US History 2, Civics and Economics, World History 1, World History 2, World Geography, US and VA History.**Section 1: Overview of Tests****Requirement:**

1.1

Describe the specific grade(s) and subject area(s) covered by each assessment and provide an overview of the content and skills measured. Include the types of test items used, the mode(s) of delivery, the availability of equivalent forms, including short forms or screeners (if available) and a test blueprint for each test being proposed.

The specific grade(s) and subject area(s) covered by each assessment and the overview of the content skills measured are provided below.

<u>Grade(s)</u>	<u>Subject Area Covered</u>
Grades 2 – End of Course	Mathematics
Grades 2 – End of Course	English (Reading/Writing)
Grades 3 – End of Course	Science
Grades 2 – End of Course	History

Overview of the Content and Skills Measured

The content, knowledge and essential skills that are measured for each content area are as follows:

- **Math Grade 2 – End of Course Content Area Skills Measured are:** The Virginia Mathematics Standards and the associated cross-walked bulleted Essential Knowledge and Skills of the Virginia Curriculum Frameworks are measured for this content area, complimented with cognitive skill measurement, since each item on the assessment forms are also aligned to Bloom's Taxonomy;
- **English Grade 2 – End of Course Content Area Skills Measured are:** The Virginia English Standards and the associated cross-walked bulleted Essential Knowledge, Skills and Processes of the Virginia Curriculum Frameworks are measured for this content area, complimented with cognitive skill measurement, since each item on the assessment forms are also aligned to Bloom's Taxonomy;
- **Science Grade 3 – End of Course Content Area Skills Measured are:** The Virginia Science Standards and the associated cross-walked bulleted Essential Knowledge, Skills and Processes of the Virginia Curriculum Frameworks for each grade level are measured for this content area, complimented with cognitive skill measurement, since each item on the assessment forms are also aligned to Bloom's Taxonomy;

Requirement:

- **History Grade 2 – End of Course Content Area Skills Measured are:** The Virginia History Standards and the associated cross-walked bulleted Essential Knowledge, Skills and Processes of the Virginia Curriculum Frameworks are measured for this content area, complimented with cognitive skill measurement, since each item on the assessment forms are also aligned to Bloom’s Taxonomy;

The types of test items used are:

- **Multiple Choice:** Math (Grades 2-EOC) , Reading/Writing (Grades 2-EOC) , Science (Grades 2 – EOC), History (Grades 3 – EOC)
- **Fill in the Blank:** Math (Grades 3- EOC) **Note:** Being expanded to all contents areas.
- **Drag and Drop:** Math (Grades 3 – EOC) **Note:** Being expanded to all content areas.
- **Hot Spot:** Math (Grades 3 – EOC) **Note:** Being expanded to all content areas.
- **Online Writing Tool:** Writing (Grades 5, 8, EOC)

Modes of Delivery are:

- Online
- Paper and Pencil
- Clicker Technologies (2013/2014 Academic Year)

Equivalent forms assessment formulation is available, including short forms or screeners.

Requirement:

1.2

Provide evidence of alignment of test items to the Virginia Standards of Learning (SOL) for existing assessments. For assessments developed in response to the RFP, provide a plan for assuring the alignment of test items to the SOL.

The following provides evidence of alignment of test items to the Virginia Standards of Learning (SOL) for existing assessments. (See Exhibit: # 1.2)

Question 1 of 33 Item#: 104197 SOL: 3.1a
ES: A EK: BT: E
 What is the value of 2 in 295,000?
 A 200
 B 2,000
 C 20,000
 D 200,000

Bloom's Taxonomy "Evaluation"
 SOL 3.1 a
 Essential Knowledge and Skill 1st Bullet

Question 33 of 33 Item#: 106294 SOL: 3.17c ES: K EK: BT: K
 The graph shows the favorite color of students in a class. Which color is the least popular?

Bloom's Taxonomy "Knowledge"
 Essential Knowledge and Skill Bullet #11
 SOL 3.17c

Favorite Colors

Color	Number of Students
Blue	11
Yellow	2
Green	5
Purple	8
Orange	4

A Yellow
 B Orange
 C Green

The following provides additional evidence of alignment of test items to the Virginia Standards of Learning (SOL) for existing assessments. (See Exhibit: # 1.2)

Question 32 of 35 Item#: 106239 SOL: 4.16b ES: D EK: BT: C
 Which is the associative property for addition?
 F $9 \times (5 \times 7) = (9 \times 5) \times 7$
 G $9 + 5 + 7 = 7 + 5 + 9$
 H $9 + (5 + 7) = (9 + 5) + 7$
 J $9 + (5 + 7) = (5 + 7) + 9$

Bloom's Taxonomy "Comprehension"
 Essential Knowledge and Skill Bullet #4
 SOL 4.16b

Question 29 of 33 Item#: 102007 SOL: A.7f ES: D EK: BT: C
 If Sarah has 3 A's on her report card her parents give her \$45. If she has 5 A's she gets \$75, and if she has 7 A's she gets \$105. Which pattern describes the amount Sarah gets for her A's?

Bloom's Taxonomy "Comprehension"
 Essential Knowledge and Skill Bullet #4
 SOL A.7f Algebra

A There is no pattern for the amount Sarah gets.
 B Sarah gets \$30 more than the number of A's she has.
 C Sarah gets 10 times the number of A's, minus \$15.
 D Sarah gets \$15 for every A she has on her report card.

Section 2: Technical Characteristics**Requirement:****2.1**

Provide evidence of content, construct, concurrent, and predictive validity as appropriate. Include validity evidence that supports the use of scores from the proposed assessment in teacher evaluation, addressing specifically the validity of using assessment results to support inferences about effectiveness of teacher in producing growth in student performance (if available).

CSSG developed and continuously develop items/questions banks and assessments that are aligned to the Standards of Learning for each content area, further we develop each item and assessment, assuring alignment of each item to a specific Essential Knowledge and Skills bullet of the Curriculum Frameworks cross-walked to the SOL strands of each content area, as well as Bloom's Taxonomy levels have been assigned to each item on an assessment. Further, we have now completed the distracter rationales/justifications for each item in the Math, English and Science content areas. We will complete History during the 2013/14 academic year.

This aforementioned level of detail alignment allows our assessments, and the assessment results to address the validity of using the assessment results to support inferences about effectiveness of teachers in producing growth in student performance. The assessment results reporting permits the central office staff, building administrators, instructional leaders, teachers the ability to drill down to the Essential Knowledge, Skill and Processes bullet level which supports inferences about effectiveness of in class instructional practice in producing growth in student performance at the SOL test Student Performance by Question level of the actual.

Further, we conduct test item calibrations to help minimize standard error of estimation. The following KR-20, Spearman-Brown reporting for assessments are additional evidence of content, construct, concurrent and predictive validity (See Section 2.2).

Requirement:

2.2

Provide evidence of reliability, both for the total test and for any subtests for which scores are reported.
Include estimates of error in measurement.

The following provides evidence of reliability:

Test Name	Number Of Test Items	Number Of Students Tested	Coefficient Of Reliability Kuder-Richardson Formula 20	Coefficient Of Reliability Spearman-Brown Prophecy Formula
Math 3 Fall 2011	31	2267	0.823	0.903
Math 3 Spring 2012	30	930	0.811	0.895
Math 3 Winter 2012	30	2252	0.829	0.906
Math 4 Fall 2011	32	2652	0.809	0.894
Math 4 Spring 2012	31	878	0.755	0.860
Math 4 Winter 2012	31	2621	0.797	0.887
Math 5 Fall 2011	31	2630	0.798	0.888
Math 5 Spring 2012	31	769	0.774	0.872
Math 5 Winter 2012	30	2617	0.833	0.909

Test Name	Number Of Test Items	Number Of Students Tested	Coefficient Of Reliability Kuder-Richardson Formula 20	Coefficient Of Reliability Spearman-Brown Prophecy Formula
English 3 Fall 2011	26	2262	0.801	0.889
English 3 Spring 2012	30	865	0.818	0.900
English 3 Winter 2012	28	2256	0.776	0.874
English 4 Fall 2011	25	2639	0.741	0.851
English 4 Spring 2012	31	791	0.777	0.874
English 4 Winter 2012	31	2607	0.678	0.808
English 5 Fall 2011	31	2620	0.782	0.878
English 5 Spring 2012	30	771	0.821	0.902
English 5 Winter 2012	30	2601	0.734	0.847

Requirement:					
	Test Name	Number Of Test Items	Number Of Students Tested	Coefficient Of Reliability Kuder-Richardson Formula 20	Coefficient Of Reliability Spearman-Brown Prophecy Formula
	History 3 Fall 2011	29	2248	0.734	0.846
	History 3 Spring 2012	31	724	0.738	0.849
	History 3 Winter 2012	28	2244	0.717	0.835
	History 4 Fall 2011	30	2639	0.821	0.902
	History 4 Spring 2012	32	263	0.785	0.880
	History 4 Winter 2012	33	2589	0.816	0.898
	History 5 Fall 2011	33	2559	0.816	0.899
	History 5 Spring 2012	31	333	0.799	0.889
	History 5 Winter 2012	28	2581	0.701	0.824

Requirement:

2.3

Provide evidence that the assessment is appropriate for use with student subgroups, including English language learners and student with disabilities. Include documentation that the assessment does not exhibit bias toward any major subgroups (e.g., through an analysis of differential item functioning). In addition, provide a sensitivity review to demonstrate the assessment tasks and items are designed to be accessible and fair for all students.

An important tenet of any valid assessment is to ensure that all students have an equal opportunity to demonstrate their knowledge and skills assessed. Our assessments are appropriate for use with student subgroups, including English language learners and students with disabilities. Our assessments do not exhibit bias toward any identified subgroups. The absence of bias in assessments is a critical success factor for assuring fairness of assessments and their use in the evaluation of teachers. Bias takes numerous forms including but not limited to language and terms, presentation of stereotypes and incorporation of concepts in assessments that are insensitive, offensive or negative to any one group or groups. Our item development avoids bias, and reinforcement of stereotypes about groups. As shown in the assessment report below, we are able to determine if an assessment is bias by subgroup. The report below shows the results of White Students vs. Black Students assessment results for the same assessment for Math Grade 5 for Fall 2011 for a specific school building. We are also able to conduct reports by individual test item assigned to an assessment to determine if their bias on an item level.

<i>School : Virginia-Elementary - White Students</i>			Advanced	Proficient	Below Proficient
Test Session Name/Version	Course Content	Student Grade Level	# of Students 79+%	# of Students 61 - 78%	# of Students <60%
Math 5 Fall 2011	Mathematics	05	9	7	3

<i>School : Virginia Elementary - Black Students</i>			Advanced	Proficient	Below Proficient
Test Session Name/Version	Course Content	Student Grade Level	# of Students 79+%	# of Students 61 - 78%	# of Students <60%
Math 5 Fall 2011	Mathematics	05	22	37	10

Requirement:

2.4

Provide evidence that the assessment includes items of varying difficulty to ensure accurate measurement of student achievement across the ability continuum, including the tails of the score distribution.

Evidence that the assessments include items of varying difficulty to assure accurate measurement of student achievement across the ability continuum is provided with Difficulty Factor reporting.

Test Name		Number Of Test Items	Number Of Students Tested
Math 3 Fall 2011		31	2419
Item#	Item Text	Difficulty Factor Correct Response	
1	What is the value of 6 in 560,982?	0.87	
2	An elementary school has 489 female students and 457 male students. How many total students does the school have?	0.87	
3	How is 138,351 written in word form?	0.84	
4	The population of Woodville is 652. The population of Milltown is 163. How much larger is Woodville than Milltown?	0.56	
5	Which number has a six; in the ones place, a five in the tens place, and a three in the hundreds place?	0.90	
6	There are 3,479 fans at the game. 1,792 fans leave before the game ends. How many fans are left at the end of the game?	0.75	
7	Which statement is <i>NOT</i> true about the graph?	0.77	
8	The graph shows the favorite color of students in a class. Which color is the most popular?	0.98	
9	Mrs. Komar made the graph below. Which <i>BEST</i> explains how Mrs. Komar made the graph?	0.73	
10	Which <i>BEST</i> compares 6,381 and 6,831?	0.70	

Requirement:**Continuation of 2.4:**

Test Name		Number Of Test Items	Number Of Students Tested
Math 4 Fall 2011		32	2810
Item#	Item Text	Difficulty Factor Correct Response	
17	Solve the problem below. $45,789 - 2,099 =$	0.79	
18	Which list of words could be used as a collection of data for a graph?	0.75	
19	Sally took a survey of the kids in her class favorite type of juice. She predicted that more kids would pick apple than grape. Study the graph. Which statement is true?	0.94	
20	Which <i>BEST</i> describes the difference of 37,601 and 9,802?	0.47	
21	The graph shows how many people visited the zoo for 4 months. Which statement about the graph is true?	0.41	
22	What is 9,008,015 in written form?	0.89	
23	Gerome asked the students in his school about the year they were born. The results are given below. • 1998: 28 students • 1997: 40 students	0.93	

Section 3: Use of Assessment as a Measure of Growth**Requirement:**

3.1

Provide evidence that the scores resulting from the assessment have been used as measures of growth by other local or state education agencies.

Grayson County Schools Division is using the scores resulting from our assessments as measures of growth beginning this academic year (2012/13). The contact for the school division is Mr. Steve Cornett, Director of Assessment and Instruction (276) 773-2831.

Requirement:

3.2

Describe the methodology used to measure growth. For example, does the assessment employ a vertical scale, use a computer-adaptive model to measure growth over time, or employ some other methodology. Does the methodology allow for the longitudinal measure of growth across academic years? What about the measurement of required growth on the proposed assessment to reach proficient on the statewide assessments (the Standards of Learning tests) in a specified amount of time? Include standard setting studies or other analyses conducted to establish measures of growth.

The methodology we use to measure growth employs a vertical scale since the adjacent grade level SOL strands, Essential Knowledge, Skills and Understanding have substantial overlap or articulation in content. Below provides a rough example of the graph representation of the methodology incorporated in our system and currently used for SOL data providing a quick teacher snap shot of student growth compared to an Academic Peer Group Median SOL scaled score along with assessment data and/or along with actual SOL Student Performance By Question results data.

Test Name: **Reading Grade 6 (2002 Standards)**
Document Level: **06**
Core: **1**
Student Group: **All Tested**

Student SOL Content Area Vertical Performance



The methodology allows for the longitudinal measure of growth across academic years. The system also allows measurement of required growth to reach proficient on the statewide assessments (the Standards of Learning tests) in a specified amount of time depending upon the scheduling implemented in a specific school. In other words, is the school building on semester or four by four block leading up to their actual SOL testing.

Requirement:

3.3

Describe the methodologies used to control item exposure so that the accuracy of students' scores is not impacted by multiple exposures to the same items.

The methodologies used to control item exposure so that the accuracy of students' scores is not impacted by multiple exposures to the same items includes our applying the Restricted Maximum Information method to restrict the number of times an item is used, and also scrambling the order of the items on the reassessment if the division decides to use the Test and Retest methodology. The item banks of the content areas proposed allows a school division to have over three (3) different parallel

Requirement:

forms of an assessment measuring the same specific SOL strands and unique bulleted Essential Knowledge, Skills and Processes. This is possible, because we provide a large bank of items aligned to the SOL strands and their unique bulleted essential knowledge, skills and processes. This along with applying Restricted Maximum Information method will assist in our control of item exposure .

For example for the following Algebra I SOL Strand (A.8), we have over nine (9) assessment items per Essential Knowledge and Skills bullet (bullets: 1-5 or A-E):

**ALGEBRA I
STANDARD A.8**

The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.

- A. Given a situation, including a real-world situation, determine whether a direct variation exists.
- B. Given a situation, including a real-world situation, determine whether an inverse variation exists.
- C. Write an equation for a direct variation, given a set of data.
- D. Write an equation for an inverse variation, given a set of data.
- E. Graph an equation representing a direct variation, given a set of data.

Typically, we provide a minimum of nine (9) different items aligned to each SOL strand and its corresponding essential knowledge, skill and processes. This approach assures multiple forms of the assessment can be developed with different items that measure the exact same SOL strand's associated essential knowledge, skills and processes. In addition to the Restricted Maximum Information method, two methodologies of assessment can be practiced to control item exposure so that the accuracy of student's scores is not impacted by multiple exposures to the same items.

The first methodology of test-retest and scrambling of the same form is available for school division use, especially if error in the test is believed to be due to occasion or time of assessment. In other words, error in predictability is believed to be due to it being a 1st Nine Weeks assessment versus a 3rd Nine Weeks assessment, when more of the content pacing will have been delivered by teachers;

The second methodology of assessment to control item exposure and accuracy is by a division's use of a parallel form testing. One form of the test at the 1st Nine Weeks and then use of a parallel form of the test developed to be as similar to the 1st Nine Weeks form as possible in terms of the test specifications and statistical criteria. Use of parallel form will address concerns with error assumed to be due to the form used during an assessment period;

Requirement:

3.4

Describe the procedures used to validate the measures of growth.

The procedures used to validate the measures of growth includes but is not limited to assuring the items on the assessment are mapped to the SOL strands and their Essential Knowledge, Skills and Understanding of the Curriculum Frameworks, assuming they define what all students are expected to demonstrate mastery and retention by content area. Assuring the items on the assessments are mapped to the SOL strands and their Essential Knowledge, Skills and Understandings with appropriate distribution of rigor using the cognitive domains of Bloom's Taxonomy, the assessment will accurately and appropriately measure the SOLs, Essential Knowledge, Skills and Understandings that students are expected to have mastered and retained. Therefore, the student scores on the assessments will accurately reflect the measures of growth, and an individual teacher's contributions to that student's measures of growth are accurately reflected.

Section 4: Test Administration Procedures**Requirement:**

4.1

Describe the administration procedures necessary to produce growth scores. For example, is the assessment designed to be administered multiple times during the year or administered once in the fall and once in the spring?

There are two administration procedures necessary to produce growth scores, they are the following:

- The assessment procedure necessary to produce growth scores is an assessment designed to be administered once in the fall and once in the spring, the Test and Retest methodology; or
- The other option to produce growth scores is parallel form methodology, use of a parallel form of the test, developed to be as similar to the first administration form as possible in terms of the test specifications and statistical criteria.

Requirement:

4.2

Describe any processes used for pre-identifying and/or registering students for testing. Include what data, including the State Testing Identifier, are collected for each student, how data are collected or transmitted, and how data are maintained and securely managed.

The processes used for pre-identifying and/or registering students for testing are their grade level or the course assignment as per the Student Information System database.

Districts are required to provide the following data types via csv files or SIF for registering students for testing. This data is used for assigning students to test sessions, reporting and remediation.

- Student demographic
- Student class
- Employee demographic
- Teacher class

Student Demographic Data

The student demographic data provided should include the following:

- Student Number
- EIMS Student Testing Identifier Last Name
- First Name
- Date of Birth
- Grade
- Gender
- Race
- Ethnicity
- Building (school) Number
- District Number

Student Class Data

The student class data is required for assigning students to test sessions based upon their class enrollment.

- Student Number
- EIMS Student Testing Identifier (Maximum of 12 Characters)
- District Number
- School Number
- Course Name
- Course Number
- Course Section

Requirement:**Employee Demographic Data**

The employee data is used for reporting purposes. Student test results are available by teacher, by class, by building and district in the Standards of Learning Assessment Resource System.

- Employee Type. Indicate one of the following:
 - T=Teacher
 - I = Instructional Leader
 - BA = Building Administrator
 - C = Building Administrator-District Wide (for Building Administrators that are associated with more than one (1) school)
 - DA = District Administrator
- Employee Number
- Last Name
- First Name
- Building (school) Number (only required for Teachers, Building Administrators & and Instructional Leaders)
- District Number

Employee Class Data

The employee class data is used for reporting and remediation purposes.

- Employee Class Number
- District Number
- School Number
- Course Name
- Course Number
- Course Section

(see Exhibit 4.2)

Requirement:**4.3**

Describe all materials needed for test administration and how school divisions will order and obtain sufficient quantities. Include details of test booklets and answer documents for paper/pencil testing (if applicable), test administration manuals, etc. If applicable, identify any test administration materials school divisions would be responsible for supplying locally (manipulatives, copies of test materials, etc.).

If paper-pencil testing will be administered, the LEA will order the scan sheets either online or via telephone for drop shipment to their specified location. If paper-based testing the school division would be responsible for supplying locally the manipulative, copies of test materials, etc.

LEAs can choose to take tests online or take paper and pencil tests. For paper and pencil tests, the LEA will be responsible for printing test booklets and scan sheets unless contracted with CSSG. LEAs will be responsible for scanning the completed student answer documents using the CSSG PC-Scan

Requirement:

Uplink Module™, which is used to automatically pre-slug (print) and scan student answer sheets into the on line Standards of Learning Assessment Resource System.

The PC-Scan Uplink Module™ technology auto-fills (pre-slugs) all scannable student answer documents with all the necessary information, such as the student name, teacher or class name and section number. This powerful offering provides teachers or administrators the option of printing any created six or nine weeks benchmark assessment for paper-based student testing, after SOLAR pre-prints the student's scannable answer sheets.

The PC-Scan Uplink Module™ and answer documents can be scanned using either a Scantron ScanMark 2010, 2260, 2800, 4000, or 5000 model series scanner that is connected to a Windows XP PC with a static live internet IP address with the CSSG PC-Scan Uplink Module™, which works "out of the box". The other option is the school or division has the option of mailing the scan sheets to our provisioning office for processing after the assessments have been administered. It is an LEAs option to request our pre-slugging the scan documents for testing and processing the completed scan sheets after assessment administration. The LEAs are only responsible for the purchase of the scan sheets and mailing the same to our designated location for processing if the turn-key option is exercised for paper-based testing.

The answer documents are read from the scanner by the PC-Scan Uplink Module™ and uploaded to the Standards of Learning Assessment Resource System for automatic scoring and populating of the student(s) records, disaggregating the data and generating any and all of the same division, school building, classroom and student disaggregated reports available as if the student had completed the benchmark assessment via SOLAR online. All data is captured and presented in the same fashion as the on-line assessment for teacher and/or administrator pinpointing of any achievement gaps by content area by class/benchmark assessment session and by student(s) or student subgroup.

The benchmark assessment results for paper-based benchmark assessment are populated in the Standards of Learning Assessment Resource System and the students' scores are available the next day. This assures that paper-based assessments are incorporated into each student's portfolio of assessments for determining proficiency and retention by content area(s) at all school sites, regardless of computer accessibility/availability, eliminating any school site or classroom becoming or remaining an island of unknowns relative to achievement gaps leading up to the actual SOL testing.

Requirement:

4.4

Provide examples of the test administration manuals to be used with the assessment(s).

Examples of the test administration manuals for the district assessments and for the separate Teacher Common assessment item bank or the option to access NWEA item banks for assessment are provided in Exhibit 4.4.

Requirement:

4.5

Describe all technology requirements related to school personnel managing the administration of tests and to students completing tests if assessments include technology-based delivery. Include the minimum and recommended hardware and software requirements and network requirements for test administration by school personnel and test delivery to students. Include how assessments are hosted (e.g., locally, vendor, 3rd party). Provide examples of user interfaces for test administration by school personnel and test delivery to students. Include descriptions or examples of test navigation and any test tools (e.g., calculator, ruler, highlighter) available to students for testing.

The assessments are hosted by CSSG. See Exhibit 4.4 for details of user interfaces for test administration by school personnel and test delivery to students.

Each school must meet the following technology requirements.

Each Windows computer must be installed with Windows XP or higher and Adobe Acrobat 8.0 or higher.

Each Apple computer must be installed with Mac OS 10 or higher, Safari 5.x or higher, with cookies and pop-ups enabled for the website: testing.cssg.com, and Adobe Acrobat 8.0 or higher installed.

Windows computers must have Internet Explorer 8 or higher installed and cookies must be enabled.

SCHOOL/CENTRAL OFFICE HARDWARE AND SOFTWARE MINIMUM RECOMMENDATIONS

SOLAR® DISTRICT ADMINISTRATOR DESKTOP HARDWARE REQUIREMENTS	
Windows PC	
	Intel Core i3 or above
CPU REQUIREMENTS	Minimum : 4 GB RAM
MEMORY REQUIREMENTS (RAM)	Recommended: 8 GB Ram
VIDEO DISPLAY REQUIREMENTS	Windows XP or above
HARD DRIVE REQUIREMENTS	Internet Explorer 8 or 9
	Adobe Reader 9 or above
	Adobe Flash
The above hard drive requirements do not include the hard drive space required by the operating system or browser.	
SOLAR® TEACHER OR STUDENT DESKTOP HARDWARE REQUIREMENTS	
Windows PC/Laptop	
	P III 733 MHz or Above
CPU REQUIREMENTS	Minimum: 2 GB RAM
MEMORY REQUIREMENTS (RAM)	Recommended: 4 GB Ram
VIDEO DISPLAY REQUIREMENTS	Windows XP or above
HARD DRIVE REQUIREMENTS	Internet Explorer 8 or 9
	Adobe Reader 9 or above
The above hard drive requirements do not include the hard drive space required by the operating system or browser.	

Requirement:	
	SOLAR® TEACHER OR STUDENT DESKTOP HARDWARE MINIMUM REQUIREMENTS Apple Macintosh
	CPU REQUIREMENTS
	MEMORY REQUIREMENTS (RAM)
	VIDEO DISPLAY REQUIREMENTS
	HARD DRIVE REQUIREMENTS
	The above hard drive requirements do not include the hard drive space required by the operating system or browser.

Requirement:
4.6 Describe accommodations available to students with disabilities and limited English proficient students. Include procedures related to the provision of accommodations to eligible students.
The accommodations available to students with disabilities and limited English proficiency are read aloud administration with a non-randomized online assessment administration or paper and pencil administration. During the 2013/14 academic school year, we will expand the deployment of our clicker technology offerings as a third accommodation to eligible students.

Requirement:
4.7 Describe procedures for completed student tests to be submitted for scoring and reporting purposes.
The procedures for completed online student tests to be submitted for scoring and reporting purposes is the students click the submit test button similar to what is provided to students during online SOL testing.
The procedures for completed paper-based student tests to be submitted for scoring and reporting purposes is the students scan sheets are scanned and scored immediately upon scanning by the school site or school division central office. Another option is for school divisions to order pre-slugged scan sheets and upon student completion, the scan sheets are transmitted to our processing center for scoring within 24 hours of receipt.
The third option is using clicker technology for submitting the tests for scoring and reporting purposes. This functionality will be expanded to all divisions under this agreement during the 2013/14 academic school year.

Requirement:

Student tests taken on-line are scored within three (3) business hours. Once the student tests are taken on-line, they are automatically scored and no further action is required by the LEA. Paper and pencil tests must be scanned into the on-line Standards of Learning Assessment Resource System using the CSSG PC-Scan Uplink Module™. The LEA is responsible for using the PC-Scan Uplink Module™ to scan and upload the results into the Standards of Learning Assessment Resource System unless contracted with CSSG to upload the scan sheets. Scanned student scores will be available within the next business day. Once the results are available in the Standards of Learning Assessment Resource System, administrators and teachers can run a variety of reports. Please see section 4.3 for additional information regarding the CSSG PC-Scan Uplink Module™.

Section 5 : Scoring and Reporting**Requirement:**

5.1

Describe scoring procedures for all item types and test forms administered, including implemented quality control measures.

The scoring procedures for all items types and test forms administered is as follows:

Multiple Choice: The scoring procedure for this item type includes one correct or most defensible answer;

Fill in the Blank: The scoring procedure for this item type includes one correct answer;

Drag and Drop: The scoring procedure for this item type is it includes one or more correct or defensible answers;

Hot Spot: The scoring procedure for this item type is it includes one or more correct or defensible answers;

Graphing: The scoring procedure for this item type is it includes one or more correct or defensible answers;

Online Writing Tool: The scoring procedure for this item type is the published Department of Education Rubric for manual scoring of a student's writing.

The implemented quality control measure includes, but is not limited to on-going item analysis reporting, reviews and item calibrations.

Requirement:

5.2

Describe the type of reporting provided (e.g., static and/or dynamic, electronic and/or paper-based, item-level, strand-level, and/or test-level scoring). Include approximate timelines for score reports to be available to divisions, how score reports will be accessed and/or obtained, and samples of student, class, school, and division score reports and sample record layouts for electronic data files.

The types of reporting provided include dynamic, electronic on screen reporting and/or paper-based print-outs. The reporting is detailed to the test-level, item-level, strand-level, Essential Knowledge, Skills and Processes bullet level, Bloom's Taxonomy Level. The timelines for score report availability to divisions at all levels (Central Office, Building Administrator, Teacher, and Instructional Leader level) is immediately after student testing is complete each day. The score reports are accessed and/or obtained online, through the secure system interface. See Exhibit 5.2 for samples of student, class, school, and division score reports and sample record layouts for electronic data files.

Requirement:

5.3

Describe all data tools available to school division staff for the analysis of data and the creation of customized reports.

The data tools available to school division staff for analysis of data and the creation of customized reports includes but is not limited to the online ReportMill data tools available on the hosted platform that allows for generation of customized reports and standard reports. The system also allows the export of data in Excel /CVS format for further manipulation and/or customization of reporting with external reporting tools.

TAB 8 – EXHIBIT 1.2

Blue prints for:

- Mathematics
- English
- Science
- History

MATH GRADE 2 BLUE PRINT

Math Grade 2 Reporting Category	Number and Number Sense	Computation and Estimation	Measurement	Geometry	Probability, Statistics, Patterns, Functions, and Algebra (Items Per Reporting Category)
	(Items Per Reporting Category)	(Items Per Reporting Category)	(Items Per Reporting Category)	(Items Per Reporting Category)	
SOL Objective Outline	60% of Items - Application/Analysis/Synthesis/Evaluation 40% of Items – Knowledge/Comprehension				
2.1 The student will a) read, write, and identify the place value of each digit in a three-digit numeral, using numeration models; b) round two-digit numbers to the nearest ten; and c) compare two whole numbers between 0 and 999, using symbols (>, <, or =) and words (<i>greater than, less than, or equal to</i>).	65				
2.2 The student will a) identify the ordinal positions first through twentieth, using an ordered set of objects; and b) write the ordinal numbers.	31				
2.3 The student will a) identify the parts of a set and/or region that represent fractions for halves, thirds, fourths, sixths, eighths, and tenths; b) write the fractions; and c) compare the unit fractions for halves, thirds, fourths, sixths, eighths, and tenths.	39				

[illegible]

[illegible]

The diagram shows a 2D grid with 5 columns and 4 rows. The top row is entirely black. The second row has a light gray cell in the first column and black cells in the other four columns. The third and fourth rows are entirely white. A thick black border surrounds the grid.

The image displays a complex geometric pattern, likely a floor plan or a decorative design. It features a grid of squares and rectangles. The left side is dominated by a large, solid black rectangular area. To the right of this, there is a vertical band consisting of a series of black and white squares, creating a striped effect. The rest of the image is filled with a grid of squares and rectangles, some of which are black, some are white, and some are gray. The pattern is highly symmetrical and repetitive, suggesting a modular or tessellated design. The overall composition is balanced and visually striking due to the high contrast between the black, white, and gray colors.

The image displays a complex geometric pattern, likely a floor tile design. It is composed of several distinct sections:

- Top Left:** A large black square.
- Top Center:** A horizontal band of light gray squares, flanked by black squares.
- Top Right:** A large black square.
- Center:** A grid of white squares, each bordered by black lines. This grid is flanked by black squares on the left and right.
- Bottom Left:** A large black square.
- Bottom Center:** A horizontal band of light gray squares, flanked by black squares.
- Bottom Right:** A large black square.

The pattern is highly symmetrical and uses a limited color palette of black, white, and light gray to create a high-contrast, abstract design.

A complex geometric pattern featuring a grid of black and white squares. The pattern is composed of several rectangular blocks of varying sizes. On the left side, there is a large black rectangle. To its right, there is a large white rectangle. The central part of the image is a grid of black and white squares, with some squares being black and others white. The pattern is symmetrical and has a high degree of contrast between the black and white areas. The overall effect is a dense, abstract composition of geometric shapes.

The diagram shows a building floor plan with a central grid of rooms. The left side is a large black area. The top has a light gray horizontal bar. The right side is a large white area. The central grid has four columns and four rows of rooms. The top row of rooms is white, and the bottom three rows have alternating black and white rooms. A small gray L-shaped area is in the top right corner of the grid.

The diagram illustrates a building layout. On the left, a large black rectangular area represents a solid block. To its right, a vertical strip contains a grid of squares. The top row of this grid consists of four black squares, each with a thin white border. Below this, there are two rows of four white squares, each also with a thin white border. The bottom row of the grid consists of four black squares, each with a thin white border. The entire grid is enclosed within a thin black border.

The diagram illustrates a floor plan layout. On the left, there is a large black rectangular area. To its right is a white rectangular area containing a grid of 12 rooms, arranged in 3 rows and 4 columns. The rooms are separated by black corridors. The top row of rooms is connected to a horizontal black corridor on the left. The bottom row of rooms is connected to a horizontal black corridor on the left. The right side of the white area is a large black rectangular area.

[illegible]

The diagram shows a building facade with a grid of windows. On the left, there is a large, light gray rectangular section that appears to be an overhang or a large window. To its right, there is a grid of windows. The top row consists of four large, dark gray rectangular windows. Below these, there is a row of four smaller, light gray rectangular windows. The bottom row consists of four large, dark gray rectangular windows. The entire facade is outlined in black, and the background is white.

The diagram illustrates a building floor plan with a central staircase area. The plan is divided into several sections:

- Top Section:** A large rectangular area at the top, possibly a common area or entrance, with a light gray background.
- Central Staircase Area:** A central area containing a grid of rooms, likely a staircase or a series of small rooms, with a light gray background.
- Bottom Section:** A large rectangular area at the bottom, possibly a common area or entrance, with a light gray background.
- Corridors and Walls:** Black lines represent walls and corridors, forming a grid-like structure throughout the plan.

A complex geometric pattern featuring a grid of white squares on a black background. The pattern is composed of several rectangular blocks. On the left, there is a large black rectangle. To its right, a white rectangle contains a grid of smaller white squares. The grid is 4 columns wide and 4 rows high. The squares are arranged in a staggered fashion, with some squares missing, creating a complex, interlocking pattern. The overall effect is a high-contrast, abstract design.

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. Above it, there is a light gray square. To the right of these, there is a grid of black and white squares. The grid is composed of four columns and eight rows. The top two rows of the grid are black, while the bottom six rows are white. The grid is separated from the black and light gray squares by a thin white line. The overall composition is a mix of solid colors and geometric shapes, creating a visually striking and abstract design.

[illegible]

[illegible]

The image displays a complex geometric pattern, likely a floor plan or architectural drawing, rendered in a high-contrast, abstract style. The design is composed of various shades of gray, black, and white, creating a high-contrast, abstract design.

The pattern is divided into several distinct sections:

- Left Section:** A large, solid black rectangle occupies the left side of the image.
- Right Section:** A large, solid white rectangle occupies the right side of the image.
- Central Section:** A grid of black and white squares is located in the center, forming a complex, interlocking pattern. This section is further divided into smaller, irregular shapes by thin black lines.
- Top Section:** A horizontal band of light gray and white shapes runs across the top of the image.
- Bottom Section:** A horizontal band of black and white shapes runs across the bottom of the image.

The overall composition is highly structured and symmetrical, suggesting a formal architectural or design context. The use of black, white, and gray creates a strong visual impact and a sense of depth and dimension.

The image displays a complex geometric pattern, likely a floor plan or a decorative design. It features a large black rectangle on the left side, a white rectangle on the right side, and a central area with a grid of black and white squares. The pattern is composed of various shades of gray, black, and white, creating a high-contrast, abstract design. The central area is divided into a grid of squares, with some squares being black and others white. The overall layout is symmetrical and balanced, with a clear division between the black and white areas.

The diagram consists of a large black rectangular area on the left side. To its right, there is a grid-like structure. At the top of this grid, there are three large black rectangular blocks. Below these, there are three horizontal gray bars. The main body of the grid is composed of white rectangular cells, some of which are separated by thin black lines. The overall layout suggests a complex system or a detailed architectural plan.

[illegible]

[illegible]

[illegible]

The image displays a complex geometric pattern, likely a floor plan or architectural design, composed of various rectangular blocks of different sizes and colors (black, white, light gray) arranged in a symmetrical, architectural layout. The pattern is divided into several distinct sections by thick black lines.

- Top Section:** A large black rectangular block on the left, followed by a light gray rectangular block, and then a black rectangular block on the right.
- Middle Section:** A large black rectangular block on the left, followed by a white rectangular block, and then a black rectangular block on the right.
- Bottom Section:** A large black rectangular block on the left, followed by a white rectangular block, and then a black rectangular block on the right.
- Central Grid:** A central area containing a grid of white squares, separated by black lines, forming a 3x3 arrangement of squares.

The overall design is highly symmetrical and features a mix of solid black, white, and light gray areas, creating a strong visual contrast and a sense of architectural structure.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left, there is a large black block with a gray block above it. To the right, there is a grid-like structure with three columns and three rows of white blocks, separated by black lines. Above this grid, there are more black and gray blocks, some of which are connected by thin lines. The overall composition is abstract and geometric, resembling a technical drawing or a diagram of a building plan.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The diagram illustrates a symmetrical building layout. The top portion features a large light gray rectangular area on the left side. To its right, there are five dark gray rectangular areas arranged in a row, separated by thin white vertical lines. The bottom portion features a large dark gray rectangular area on the left side. To its right, there are five light gray rectangular areas arranged in a row, also separated by thin white vertical lines. The overall structure is symmetrical about a central vertical axis.

The diagram illustrates a building facade with a grid of windows and doors. The top section is light gray, and the bottom section is dark gray. The facade is divided into four vertical sections by three vertical lines. The top section contains a series of windows and doors, with some areas highlighted in light gray. The bottom section contains a series of windows and doors, with some areas highlighted in dark gray. The diagram is labeled with 'A' and 'B' at the top and 'C' and 'D' at the bottom.

[illegible]

The diagram illustrates a building facade with a symmetrical design. It features a central entrance area with a dark, recessed canopy. Above the entrance, there is a horizontal band of windows. The facade is divided into several vertical sections by thin lines, suggesting structural columns or window frames. The overall style is minimalist and architectural, using black, white, and gray to represent different materials and shadows.

The diagram illustrates a building facade layout. It is divided into two main horizontal sections. The top section is shaded gray and contains a large gray rectangle on the left and a series of smaller gray rectangles on the right. The bottom section is white and contains a large white rectangle on the left and a series of smaller white rectangles on the right. The diagram is framed by a thick black border.

The diagram shows a 3D grid structure composed of several rectangular blocks. The top layer consists of a large gray block on the left and five black blocks of varying sizes on the right. Below this, a horizontal gray bar spans across the middle. The bottom layer features a large black block on the left and five white blocks of varying sizes on the right. The entire structure is defined by black outlines, and the colors of the cells are black, white, and gray.

The diagram illustrates a building layout with three main horizontal sections. The top section features a large room on the left and five smaller rooms on the right. The middle section consists of a long corridor on the left and five smaller rooms on the right. The bottom section has a large room on the left and five smaller rooms on the right. The rooms are separated by walls, and the central corridor is a common area.

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. To its right, a horizontal band of light gray squares spans the width of the image. Below this band, a grid of white and black squares is visible. The grid is divided into two main sections: a top section with a black background and a bottom section with a white background. The top section contains a grid of black squares, while the bottom section contains a grid of white squares. The overall pattern is highly symmetrical and repetitive, suggesting a mathematical or architectural design.

The diagram illustrates a cross-section of a building facade. On the left, there is a large black rectangular area. To its right, a grid of windows is shown. The grid consists of four columns and two rows. The top row of windows is shaded light gray, while the bottom row is white. The windows are separated by dark gray vertical and horizontal mullions. The entire facade is set against a black background.

The diagram illustrates a building layout with a complex arrangement of colored regions. The left side features a large black area at the bottom and a light gray area at the top. The right side is divided into five vertical columns, with the top section being black and the bottom section being white. The middle section of the right side is divided into five horizontal bands, alternating between black and light gray. The entire layout is enclosed within a black border.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The layout is organized into a grid-like structure with varying column widths and row heights. The top section features a large gray block on the left and a series of black blocks on the right. Below these, a horizontal black bar spans the width of the diagram. The bottom section is dominated by a large black block on the left and a series of white blocks on the right. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

A complex geometric pattern composed of black, white, and gray rectangular blocks. On the left side, there is a large gray rectangle. To its right, a black horizontal bar spans across the middle. Below this bar, a grid of white squares is visible, separated by black vertical lines. Above the black horizontal bar, there are several black rectangular blocks of varying sizes, some of which are separated by thin gray lines. The overall composition is abstract and architectural.

[illegible]

[illegible]

The diagram illustrates a floor plan layout with a grid of rooms. The layout is divided into five vertical sections by four vertical lines. The leftmost section contains a large black rectangle at the top, a light gray rectangle below it, a thin black horizontal bar, and a large black rectangle at the bottom. The remaining four sections each contain a black rectangle at the top, a light gray horizontal bar, a black horizontal bar, and a large white rectangle at the bottom. The overall structure is symmetrical, with the leftmost section being wider than the others.

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. Above it is a light gray square. To the right of these, there is a grid of black and white squares. The grid is composed of several columns and rows, with thin white lines separating the individual squares. The overall composition is abstract and geometric, with a high contrast between the black, white, and gray colors.

The diagram consists of several rectangular blocks of different colors (black, white, and gray) arranged in a structured manner. On the left, there is a large black block at the bottom, a gray block above it, and a smaller black block at the top. To the right of these, there is a series of vertical black bars. Further right, there are four white rectangular blocks arranged in a row. Above these white blocks, there are four black rectangular blocks, each with a thin gray horizontal bar at its base. The entire composition is defined by thin black lines that create a grid-like structure.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left, a large black block is positioned below a gray block. To the right, a series of white blocks are arranged in a grid-like pattern, separated by thin black lines. Above these white blocks, there are more gray and black blocks, some of which are partially overlapping. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

[illegible]

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large black square. To its right, a large light gray square is positioned. The central area features a grid of black and white squares, with some squares being smaller than others. The pattern is highly symmetrical and intricate, with a mix of black, white, and light gray colors. The overall design is abstract and modern, with a focus on geometric shapes and high contrast.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The overall structure is composed of a top section with a large gray block on the left and several black blocks on the right, and a bottom section with a large black block on the left and several white blocks on the right. The blocks are interconnected by thin black lines, creating a complex, multi-layered geometric composition.

A diagram of a 3D coordinate system. It features three axes originating from a central point: a horizontal axis labeled 'x', a vertical axis labeled 'y', and a diagonal axis labeled 'z'. Each axis is represented by a line with an arrow at its end. The axes are labeled with 'x', 'y', and 'z' respectively. The origin is marked with a small circle. The axes are labeled with 'x', 'y', and 'z' respectively.

The diagram shows a 3D grid structure. The top layer consists of a large black rectangular block on the left, followed by a row of five black rectangular blocks. Below this row, there is a single black rectangular block spanning the width of the five blocks below it. The bottom layer consists of five white rectangular blocks arranged in a row, each directly below one of the five blocks in the layer above. The entire structure is outlined with black lines.

The image displays a complex geometric pattern composed of a grid of squares and rectangles. The primary colors used are black, white, and a light gray. The pattern is defined by thin black lines that separate the different colored sections. The layout is symmetrical and repetitive, suggesting a tessellated design. The overall effect is one of a structured, abstract composition.

The image displays a complex geometric pattern, likely a floor tile design. It features a grid of squares and rectangles, primarily in black, white, and light gray. The pattern is composed of several repeating units, each defined by thin black lines. The overall layout is symmetrical and intricate, with a central horizontal band of white squares flanked by black and gray sections. The design is reminiscent of traditional Islamic or Persian tilework, characterized by its precise geometric forms and high contrast.

The image displays a complex geometric pattern, likely a floor plan or architectural design. It features a large black square on the left side, a grid of white squares on the right side, and various gray and black rectangular blocks at the top and bottom. The pattern is composed of numerous small, interconnected shapes, creating a dense and intricate visual structure.

[illegible]

[illegible]

[illegible]

The diagram illustrates a building layout with a top section (shaded light gray) and a bottom section (white). The top section is divided into several rooms by black lines. On the left is a large rectangular room. To its right are several smaller rooms, some of which are further subdivided. The bottom section is a large, open area, possibly a common space or a large room, with a few small rectangular areas near the top section. The entire layout is enclosed in a black border.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The overall shape is roughly rectangular, with a complex internal structure that suggests a technical or architectural drawing. The blocks are arranged in a way that creates a sense of depth and perspective, with some blocks appearing to be in front of others. The use of black, white, and gray provides a high-contrast, minimalist aesthetic.

The diagram illustrates a cross-section of a building with a central core and four wings. The building is divided into a grid of rooms. The central core is black. The wings are white. The diagram is divided into two main sections by a horizontal line. The top section shows the upper floors, and the bottom section shows the lower floors. The top section has a large black area on the left and a large white area on the right. The bottom section has a large black area on the left and a large white area on the right. The diagram is labeled with 'A' and 'B' at the top and 'C' and 'D' at the bottom.

The image displays a complex geometric pattern, likely a textile design or a digital art composition. The pattern is composed of various rectangular blocks of different sizes and colors (black, white, gray) arranged in a symmetrical, grid-like fashion. The central horizontal band features a repeating black and white striped pattern, which is flanked by large black and white squares. The overall design is highly structured and repetitive, suggesting a modular or tessellated nature.

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. To its right, a light gray square is positioned at the top left. The right side of the image features a grid of white squares, some of which are partially obscured by black lines and shapes. The overall design is abstract and geometric, with a focus on color contrast and spatial arrangement.

The diagram illustrates a cross-section of a building with a central core and five wings. The ground floor is white, and the upper floors are black. The central core is white, and the wings are black. The diagram is divided into five vertical sections by thin black lines.

[illegible]

The diagram is a floor plan of a building. It features a large central hall labeled 'HALL' in the center. To the left of the hall is a large room labeled 'OFFICE'. To the right of the hall are several smaller rooms: 'RECEPTION' at the top right, 'STORE' below it, 'BATH' to the left of the 'STORE', 'KITCHEN' below the 'BATH', and 'BEDROOM' at the bottom right. The plan includes a north arrow pointing towards the top right and a scale bar at the bottom left.

[illegible]

The diagram shows a floor plan of a building. On the left is a large, dark gray rectangular area labeled 'HALL'. To the right of the hall is a row of five smaller, light gray rectangular areas, each labeled 'OFFICE'. These offices are separated by thin white lines. The entire plan is enclosed in a black border.

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, arranged in two rows of five columns. Above this grid, there are several black rectangular blocks of varying sizes, some of which are separated by thin white lines. Below the grid, there are more black rectangular blocks, including a large one on the far left and several smaller ones on the right. The overall composition is abstract and minimalist, using only black, white, and light gray colors.

The diagram is a complex geometric composition. On the left, a large black rectangle is partially overlaid by a gray rectangle. To the right of this, a series of thin black vertical lines divide the space into columns. These columns contain various rectangular blocks of black, white, and gray. Some blocks are solid, while others are defined by thin black outlines. The overall effect is a layered, architectural structure with a high-contrast black and white palette, accented by gray.

[illegible]

The diagram illustrates a 2D grid of cells, likely representing a binary image or a data matrix. The grid is composed of several rows and columns. The leftmost column is a solid black rectangle. The remaining columns are white rectangles, each separated from the others by a thin black vertical line. The top row of the white rectangles is a solid black rectangle. The bottom row of the white rectangles is a solid black rectangle. The overall structure is a large black rectangle on the left and a series of white rectangles on the right, separated by black lines.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The layout is organized into a grid-like structure with varying block sizes and colors, creating a complex geometric pattern.

[illegible]

[illegible]

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The layout is organized into a grid-like structure with multiple rows and columns. The top section features a large gray block on the left and a series of smaller black blocks on the right. Below this, a horizontal gray bar spans across the middle. The bottom section is dominated by a large black block on the left and a series of white blocks on the right. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The layout is organized into a grid-like structure with multiple rows and columns. The top section features a large black block on the left and a series of smaller black blocks on the right. Below these, there are rows of white blocks, some of which are separated by thin black lines. A prominent horizontal gray bar spans across the middle of the diagram. The bottom section is dominated by a large black block on the left and a series of white blocks on the right. The overall composition is symmetrical and balanced, with a high degree of geometric precision.

The diagram consists of a large black rectangular area on the left side. To its right is a series of five vertical columns. Each column is divided into three horizontal sections. The top section of each column is black. The middle section is white. The bottom section is white. The columns are separated by thin black vertical lines. The entire diagram is enclosed in a thin black border.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. The layout is organized into a grid-like structure with multiple columns and rows. The top section features a large black block on the left, followed by a series of smaller black and gray blocks. Below this, there is a row of white blocks, some of which are partially covered by black blocks. The bottom section is dominated by a large black block on the left, with a series of white blocks to its right. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

The image displays a complex geometric pattern. On the left side, there is a large, solid black rectangle. To its right, a grid of squares is visible. The top row of this grid consists of five black squares. The second row features a light gray square followed by four black squares. The third row is composed of five white squares. The fourth row consists of five black squares. The fifth row features a light gray square followed by four black squares. The sixth row is composed of five white squares. The seventh row consists of five black squares. The eighth row features a light gray square followed by four black squares. The ninth row is composed of five white squares. The tenth row consists of five black squares. The eleventh row features a light gray square followed by four black squares. The twelfth row is composed of five white squares. The thirteenth row consists of five black squares. The fourteenth row features a light gray square followed by four black squares. The fifteenth row is composed of five white squares. The sixteenth row consists of five black squares. The seventeenth row features a light gray square followed by four black squares. The eighteenth row is composed of five white squares. The nineteenth row consists of five black squares. The twentieth row features a light gray square followed by four black squares. The twenty-first row is composed of five white squares. The twenty-second row consists of five black squares. The twenty-third row features a light gray square followed by four black squares. The twenty-fourth row is composed of five white squares. The twenty-fifth row consists of five black squares. The twenty-sixth row features a light gray square followed by four black squares. The twenty-seventh row is composed of five white squares. The twenty-eighth row consists of five black squares. The twenty-ninth row features a light gray square followed by four black squares. The thirtieth row is composed of five white squares. The thirty-first row consists of five black squares. The thirty-second row features a light gray square followed by four black squares. The thirty-third row is composed of five white squares. The thirty-fourth row consists of five black squares. The thirty-fifth row features a light gray square followed by four black squares. The thirty-sixth row is composed of five white squares. The thirty-seventh row consists of five black squares. The thirty-eighth row features a light gray square followed by four black squares. The thirty-ninth row is composed of five white squares. The fortieth row consists of five black squares. The forty-first row features a light gray square followed by four black squares. The forty-second row is composed of five white squares. The forty-third row consists of five black squares. The forty-fourth row features a light gray square followed by four black squares. The forty-fifth row is composed of five white squares. The forty-sixth row consists of five black squares. The forty-seventh row features a light gray square followed by four black squares. The forty-eighth row is composed of five white squares. The forty-ninth row consists of five black squares. The fiftieth row features a light gray square followed by four black squares. The fifty-first row is composed of five white squares. The fifty-second row consists of five black squares. The fifty-third row features a light gray square followed by four black squares. The fifty-fourth row is composed of five white squares. The fifty-fifth row consists of five black squares. The fifty-sixth row features a light gray square followed by four black squares. The fifty-seventh row is composed of five white squares. The fifty-eighth row consists of five black squares. The fifty-ninth row features a light gray square followed by four black squares. The sixtieth row is composed of five white squares. The sixty-first row consists of five black squares. The sixty-second row features a light gray square followed by four black squares. The sixty-third row is composed of five white squares. The sixty-fourth row consists of five black squares. The sixty-fifth row features a light gray square followed by four black squares. The sixty-sixth row is composed of five white squares. The sixty-seventh row consists of five black squares. The sixty-eighth row features a light gray square followed by four black squares. The sixty-ninth row is composed of five white squares. The seventieth row consists of five black squares. The seventy-first row features a light gray square followed by four black squares. The seventy-second row is composed of five white squares. The seventy-third row consists of five black squares. The seventy-fourth row features a light gray square followed by four black squares. The seventy-fifth row is composed of five white squares. The seventy-sixth row consists of five black squares. The seventy-seventh row features a light gray square followed by four black squares. The seventy-eighth row is composed of five white squares. The seventy-ninth row consists of five black squares. The eightieth row features a light gray square followed by four black squares. The eighty-first row is composed of five white squares. The eighty-second row consists of five black squares. The eighty-third row features a light gray square followed by four black squares. The eighty-fourth row is composed of five white squares. The eighty-fifth row consists of five black squares. The eighty-sixth row features a light gray square followed by four black squares. The eighty-seventh row is composed of five white squares. The eighty-eighth row consists of five black squares. The eighty-ninth row features a light gray square followed by four black squares. The ninetieth row is composed of five white squares. The ninety-first row consists of five black squares. The ninety-second row features a light gray square followed by four black squares. The ninety-third row is composed of five white squares. The ninety-fourth row consists of five black squares. The ninety-fifth row features a light gray square followed by four black squares. The ninety-sixth row is composed of five white squares. The ninety-seventh row consists of five black squares. The ninety-eighth row features a light gray square followed by four black squares. The ninety-ninth row is composed of five white squares. The hundredth row consists of five black squares.

The image displays a complex geometric pattern composed of various rectangular blocks in black, white, and gray. On the left side, there is a large black square. To its right, a grid of white squares is visible, with some squares having black borders. Above the white grid, there are several black and gray rectangular blocks. Below the white grid, there are more black and gray rectangular blocks. The overall composition is abstract and geometric, with a focus on the interplay of black, white, and gray shapes.

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large black square. To its right, a grid of white squares is visible, separated by thin black lines. Above the white grid, there are several black rectangular blocks of varying sizes. Below the white grid, there are more black rectangular blocks, some of which are wider than others. The overall composition is abstract and geometric, with a focus on the interplay of black, white, and gray shapes.

[illegible]

The diagram shows a floor plan with a grid of rooms. The top row consists of five rooms, each with a black header and a light gray body. The bottom row consists of five rooms, each with a black header and a white body. A large black area is on the left, and a large white area is on the right.

[illegible]

[illegible]

The image displays a complex geometric pattern composed of various colored rectangles and squares. On the left side, there is a large, solid black rectangle. To its right, a grid of squares is visible, with some squares being black and others white. Above this grid, there is a horizontal band of light gray squares. The overall composition is abstract and geometric, with a focus on color and shape.

[illegible]

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. Above it is a light gray square. To the right of these, there is a grid of squares. The top row of this grid consists of four black squares. Below this, there is a row of four white squares. The bottom two rows of the grid consist of alternating black and white squares. The overall composition is abstract and geometric.

The image is a complex geometric composition. On the left side, there is a large, solid black rectangle. To its right, a horizontal band of light gray and black rectangles spans the width of the image. Below this band, a grid of white and black squares is visible. The grid is composed of four columns and three rows of squares. The top row of squares is white, the middle row is black, and the bottom row is white. The squares are separated by thin black lines. The overall composition is abstract and minimalist, using a limited color palette of black, white, and light gray.

[illegible]

Black	Black	Black	Black
Black	Black	Black	Black
Black	Black	Black	Black
Black	Black	Black	Black

[illegible]

[illegible]

A complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black rectangle. To its right, a grid of squares is arranged in four columns. The top row of this grid consists of four black squares. The second row consists of four white squares. The third row consists of four black squares. The bottom row consists of four white squares. A light gray horizontal band runs across the top of the image, above the grid. The overall composition is minimalist and abstract, using only black, white, and light gray.

The image is a complex geometric composition. On the left side, there is a large, solid black rectangle. To its right, there is a grid of squares. The top row of the grid consists of four black squares. Below this, there is a row of four white squares. The next row consists of four black squares. This is followed by a row of four white squares. The grid continues with alternating rows of black and white squares. The overall composition is minimalist and abstract, using only black, white, and light gray colors.

The diagram illustrates a 2D grid of cells. The top row consists of four black cells. The second row features a light gray cell on the left and three black cells on the right. The third row contains a black cell on the left and three black cells on the right. The bottom row is composed of a black cell on the left and three white cells on the right. The grid is enclosed by a thick black border on the left and right sides.

[illegible]

[illegible]

The diagram shows a floor plan with a grid of rooms. The leftmost column is a large black rectangle. The top row has a black rectangle, a light gray rectangle, and a black rectangle. The middle row has a black rectangle, a light gray rectangle, and a black rectangle. The bottom row has a black rectangle, a light gray rectangle, and a black rectangle. The rightmost column has a black rectangle, a light gray rectangle, and a black rectangle. The central area is a large white rectangle.

[illegible]

[illegible]

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, separated by thin black lines. Above the white grid, there are several black rectangular blocks of varying sizes, some of which are outlined in gray. Below the white grid, there are more black rectangular blocks, including a large one on the far right. The overall composition is abstract and minimalist, using a limited color palette of black, white, and gray.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines separate the blocks and define the overall structure. The layout is organized into a grid-like pattern with varying block sizes and colors.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left, a large black block is positioned below a gray block. To the right, a series of black blocks are arranged in a row, with a white block below them. A central horizontal gray bar spans across the middle of the diagram. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

The diagram illustrates a building layout. On the left is a large, solid black rectangular area. To its right is a vertical wall. Further right is a horizontal corridor, also black. To the right of the corridor are four white rectangular rooms of equal size, separated by thin black vertical walls. The top of the diagram shows a black area with four white rectangular openings, each aligned with one of the rooms below. The entire layout is enclosed within a thin black border.

[illegible]

[illegible]

The image displays a complex geometric pattern composed of various squares and rectangles. On the left side, there is a large, solid black rectangle. To its right, a large white rectangle is visible, which is partially obscured by a black rectangle. The central and right portions of the image are filled with a grid of squares and rectangles, some of which are black, some are white, and some are gray. The pattern is highly symmetrical and repetitive, suggesting a mathematical or architectural design. The overall composition is a dense, interlocking arrangement of geometric shapes.

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, with some squares having black borders or internal patterns. Above the white grid, there are several black rectangular blocks of varying sizes, some of which are separated by thin white lines. Below the white grid, there are more black rectangular blocks, including a large one on the far right. The overall composition is abstract and geometric, with a high contrast between black and white.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The diagram shows a building floor plan with a grid of rooms. The top row consists of five rooms. The first room on the left is shaded gray. The second room is split vertically; the left half is shaded gray and the right half is white. The third room is split vertically; the left half is shaded gray and the right half is white. The fourth room is split vertically; the left half is shaded gray and the right half is white. The fifth room is split vertically; the left half is shaded gray and the right half is white. The middle row consists of four rooms, all shaded gray. The bottom row consists of five rooms, all white. The diagram is labeled 'Figure 1' and 'Figure 2'.

The diagram illustrates a building facade with a grid of windows. The facade is divided into four vertical sections by three vertical lines. The top section is a solid black rectangle. The middle section contains a large, light gray rectangular area on the left, followed by a series of smaller, light gray rectangular areas arranged in a grid pattern. The bottom section is a solid black rectangle. The entire facade is enclosed within a thin black border.

[illegible]

The image displays a complex geometric pattern, likely a floor tile design or a decorative wall panel. The pattern is composed of many small squares and rectangles, creating a complex, abstract design. The primary colors are black and white, with some areas of light gray. The pattern is organized into a grid-like structure, with a large black rectangle on the left and a large white rectangle on the right. The central area is filled with a repeating pattern of black and white squares, some of which are slightly offset or rotated, creating a sense of depth and movement. The overall effect is one of a highly structured yet dynamic composition.

The image displays a complex, high-contrast geometric pattern. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, separated by thin black lines. Interspersed among these white squares are various black and light gray rectangular blocks of different sizes. Some blocks are solid black, while others are light gray. The overall composition is abstract and intricate, with a strong sense of geometric structure and color contrast.

The diagram consists of a large black rectangular area on the left side. To its right is a grid of white rectangular blocks. The grid is composed of two rows of five blocks each. The top row of white blocks is partially obscured by a thick black horizontal bar at the very top. The bottom row of white blocks is partially obscured by a thick black horizontal bar at the very bottom. The grid is defined by thin black lines. There are also several gray rectangular blocks: one large gray block in the top left, and several smaller gray blocks interspersed within the grid structure, particularly along the top and right edges of the white blocks.

[illegible]

The image displays a complex geometric pattern, likely a woodcut or linocut print, characterized by a high-contrast black and white color scheme with occasional light gray areas. The composition is dominated by a large, solid black rectangle on the left side, which occupies approximately one-third of the width and extends vertically across most of the frame. To the right of this black block is a large, light gray rectangular area, also extending vertically. The central portion of the image features a grid-like structure composed of numerous small, rectangular blocks of varying sizes. These blocks are arranged in a way that creates a sense of depth and architectural structure, with some blocks appearing to be stacked or layered. The overall effect is one of a highly structured, abstract environment, possibly representing a modernist architectural design or a stylized landscape. The use of black, white, and light gray suggests a minimalist aesthetic, emphasizing form and light over detail.

The diagram illustrates a building facade or a structural layout. On the left side, there is a large black rectangular area. To its right, there are four white rectangular areas, each separated from the others by a black vertical line. The top of the diagram features a black horizontal bar with four white vertical lines extending downwards, suggesting a roofline or a series of columns. The overall design is minimalist and geometric.

[illegible]

[illegible]

[illegible]

The diagram shows a floor plan with a grid of rooms. The top row consists of five rooms, the middle row consists of four rooms, and the bottom row consists of five rooms. The top-left room is shaded gray. The middle row has a long central hallway. The bottom row has a long central hallway. The rooms are labeled with numbers 1 through 10.

A complex geometric pattern featuring a grid of squares and rectangles in black, white, and light gray. The pattern is composed of various sized blocks arranged in a structured, non-uniform manner. Some blocks are solid black, while others are white or light gray. Thin black lines are visible within some of the white and gray blocks, creating a layered or textured effect. The overall composition is abstract and architectural, resembling a stylized floor plan or a modern art piece.

The image displays a complex geometric pattern composed of various colored squares and rectangles. On the left side, there is a large black square. Above it is a light gray square. To the right of these, there is a grid of white squares. The grid is composed of 5 columns and 2 rows of white squares. The top row of white squares is separated from the light gray square by a black line. The bottom row of white squares is separated from the top row by a black line. The entire grid is enclosed within a black border. The pattern is highly symmetrical and geometric, with a strong emphasis on black, white, and gray colors.

[illegible]

The image displays a complex geometric pattern. On the left side, there is a large black rectangle. Above a central grid of white squares, there is a light gray rectangle. The grid itself consists of 5 columns and 2 rows of white squares, separated by thin white lines. To the right of the grid, there is a black rectangle. At the bottom of the image, there is a black rectangle. The overall composition is abstract and geometric, with a focus on black, white, and light gray colors.

[illegible]

[illegible]

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black rectangle. To its right, a grid of white and black squares is visible. The top of the image features a horizontal band with a light gray rectangle and a black rectangle. The overall composition is abstract and geometric, with a focus on black, white, and light gray colors.

The diagram shows a building facade with a grid of windows and doors. The left side is black, and the right side is white. The top row has a black window, a white window, a white window, and a white window. The second row has a black window, a white window, a white window, and a white window. The third row has a black window, a white window, a white window, and a white window. The bottom row has a black window, a white window, a white window, and a white window.

The diagram consists of a large black rectangle on the left side. To its right, separated by a thin vertical line, is a grid of four white rectangles. The top of the diagram features a black horizontal bar with a white segment on the right side. The grid on the right is composed of four columns and one row of white rectangles, with thin black lines separating them. The overall layout suggests a comparison or relationship between the large black area and the segmented white area.

[illegible]

The image displays a 4x4 grid of squares. The top-left square is gray. The top row contains three black squares. The second row contains a black square, followed by three white squares. The third row contains a black square, followed by three white squares. The bottom row contains a black square, followed by three white squares. A large black square occupies the leftmost column, spanning from the second row to the bottom row. A gray square is located at the top-left corner of the grid.

The diagram consists of a large black rectangle on the left, which is 4 units wide and 10 units high. To its right is a 4x4 grid of squares. The top row of the grid is black, and the bottom row is black. The middle two rows are white. The grid is 4 units wide and 10 units high. The top row is black, and the bottom row is black. The middle two rows are white. The grid is 4 units wide and 10 units high.

[illegible]

The diagram shows a building facade with a grid of windows. A large horizontal band, possibly a balcony or a different floor level, runs across the middle of the building. The building is divided into several vertical sections by thin lines, suggesting individual units or rooms. The overall style is minimalist and architectural.

[illegible]

The image displays a complex geometric pattern composed of a grid of squares and rectangles. The pattern is primarily black and white, with some light gray rectangular sections. The layout is defined by thin black lines that separate the different colored areas. The overall structure is a large rectangle divided into several smaller rectangular sections of varying sizes. The pattern is symmetrical and repetitive, creating a visually striking and balanced composition.

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, with some squares containing black rectangular blocks. The top of the image features a series of black and gray rectangular blocks, including a large gray block on the left and several smaller black blocks on the right. The bottom of the image shows a large black square on the left and a series of black and gray rectangular blocks on the right. The overall composition is abstract and geometric, with a focus on the interplay of black, white, and gray shapes.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left, a large black block is partially covered by a gray block. To the right, there are four vertical columns, each containing a stack of blocks. The top row of blocks is primarily black, with some gray blocks interspersed. The middle row features a mix of black and white blocks. The bottom row is predominantly white, with some black blocks. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

The image displays a complex geometric pattern composed of various rectangular blocks in black, white, and gray. On the left side, there is a large black square. To its right, a grid of white squares is visible, with some squares having black borders. Above the white grid, there are several black and gray rectangular blocks. Below the white grid, there are more black and gray rectangular blocks. The overall composition is abstract and geometric, with a focus on the interplay of black, white, and gray shapes.

[illegible]

[illegible]

[illegible]

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left, there is a large black block with a gray block above it. To the right, there is a grid-like structure with multiple rows and columns of black and white blocks, some of which are further subdivided by thin lines. The overall composition is abstract and geometric, resembling a technical drawing or a complex floor plan.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines separate the blocks and define the overall grid. The layout is as follows:

- Top Row:** A long black block on the left, followed by a gray block, and then four black blocks of varying widths.
- Second Row:** A long gray block on the left, followed by a black block, and then four gray blocks of varying widths.
- Third Row:** A long black block on the left, followed by a black block, and then four black blocks of varying widths.
- Bottom Section:** A large black block on the left, followed by four white blocks of varying widths.

The diagram is a complex geometric composition using black, white, and gray rectangular blocks and thin black lines. The layout is structured as follows:

- Top Row:** A long black block on the left, followed by a gray block, and then four black blocks of varying widths.
- Second Row:** A long gray block on the left, followed by a black block, and then four gray blocks of varying widths.
- Third Row:** A long black block on the left, followed by a black block, and then four black blocks of varying widths.
- Bottom Section:** A large black block on the left, followed by four white blocks of varying widths.

[illegible]

The image displays a complex geometric pattern, likely a floor tile design or a decorative wall panel. The pattern is composed of a grid of squares and rectangles, primarily in black, white, and light gray, separated by thin black lines. The layout is symmetrical and repetitive, suggesting a larger tiled surface. The pattern features a central horizontal band of light gray squares, flanked by black squares. Below this band, there are rows of white squares, some of which are further divided into smaller sections by black lines. The overall effect is a high-contrast, geometric composition.

[illegible]

[illegible]

[illegible]

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines separate the blocks and define their boundaries. The layout is organized into a grid-like structure with multiple rows and columns. The top row features a long black block on the left and a series of smaller black blocks on the right. Below this, there are rows of gray blocks, some of which are wider than others. The bottom section of the diagram is dominated by a large black block on the left and a series of white blocks on the right. The overall composition is symmetrical and balanced, with a clear hierarchy of shapes and colors.

[illegible]

[illegible]

The diagram illustrates a symmetrical, multi-story building layout. The structure is divided into two main horizontal sections. The upper section features a large black rectangular area on the left side and a row of six smaller black rectangular areas on the right side. The lower section features a large black rectangular area on the left side and a row of six white rectangular areas on the right side. The layout is symmetrical and uses black and white colors to represent different areas.

Table with 8 columns and 10 rows							
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Row 1							
Row 2							
Row 3							
Row 4							
Row 5							
Row 6							
Row 7							
Row 8							
Row 9							
Row 10							

[illegible]

[illegible]

[illegible]

The diagram shows a 2D grid with 6 columns and 3 rows. The top row is entirely black. The middle row consists of a light gray cell in the first column and black cells in the remaining five columns. The bottom row consists of black cells in the first and fifth columns, and white cells in the second, third, fourth, and sixth columns. The first column is highlighted with a thick black border.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines define the boundaries and internal divisions of these blocks. On the left side, there is a large black vertical rectangle. To its right, a horizontal gray bar is positioned above a thin black line. Below this line, a large black rectangle spans the width of the diagram. To the right of this black rectangle, there is a grid of six white rectangular blocks arranged in two rows of three. Above this grid, there are several black rectangular blocks of varying widths, some of which are separated by thin white lines. The overall composition is abstract and geometric, with a focus on the relationships between the different colored areas and the defining lines.

Black	Black	Black	Black	Black	Black
Light Gray	Black	Black	Black	Black	Black
Black	Black	Black	Black	Black	Black
Black	Black	Black	Black	Black	Black
Black	Black	Black	Black	Black	Black
Black	Black	Black	Black	Black	Light Gray

The image displays a complex geometric pattern, likely a book cover or endpaper. It features a large black rectangle on the left side, a central grid of white squares, and a black rectangle on the right side. The pattern is composed of various shades of gray and black, with thin white lines separating the sections. The overall design is minimalist and modern, with a strong emphasis on geometric shapes and color contrast.

The image displays a complex geometric pattern composed of a grid of squares and rectangles. The primary colors are black, white, and a light gray. The pattern is defined by thin black lines that separate the different colored sections. The layout is symmetrical and repetitive, with a central column of white squares flanked by black and light gray sections. The overall effect is a high-contrast, abstract design.

The image displays a complex geometric pattern, likely a floor tile design. It is composed of several distinct sections:

- Top Section:** A horizontal band of light gray squares, separated from the main grid by a thin black line.
- Left Section:** A large, solid black square that occupies the leftmost portion of the design.
- Right Section:** A grid of white and black squares, arranged in a repeating pattern. The grid is divided into four columns and four rows. The top row of the grid is a solid black row. The subsequent rows consist of alternating black and white squares, with the black squares positioned in the first, third, and fourth columns, and the white squares in the second column.

The overall design is characterized by its high contrast and geometric precision, typical of traditional Islamic or Persian tilework.

The image displays a complex geometric pattern composed of various rectangular blocks. On the left side, there is a large, solid black square. To its right, a grid of white squares is visible, with some squares having black borders or internal patterns. Above the grid, there are several black rectangular blocks of varying sizes, some of which are separated by thin white lines. Below the grid, there are more black rectangular blocks, including a large one on the far left and a smaller one on the far right. The overall composition is abstract and geometric, with a high contrast between black and white.

The image displays a complex geometric pattern. On the left side, there is a large, solid black rectangle. To its right, a grid of squares is visible, alternating between white and black. The top of the image features a series of horizontal bars, some black and some white, arranged in a row. The overall composition is abstract and minimalist, using only black, white, and gray colors.

The image displays a complex geometric pattern composed of a grid of squares and rectangles. The primary colors used are black, white, and a light gray. The pattern is defined by thin black lines that separate the different colored sections. The layout is symmetrical and repetitive, suggesting a modular design. The top section features a large black rectangle on the left, followed by a row of six smaller black rectangles. Below this, a row of six light gray rectangles is visible. The middle section consists of a large black rectangle on the left, followed by a row of six white rectangles. The bottom section features a large black rectangle on the left, followed by a row of six white rectangles. The overall effect is a high-contrast, abstract composition.

The diagram consists of several rectangular blocks of different sizes and colors (black, white, and gray) arranged in a structured layout. Thin black lines separate the blocks and define the overall grid. The layout is as follows:

- Top Row:** A long black block on the left, followed by a gray block, and then six black blocks of varying widths.
- Second Row:** A long gray block on the left, followed by a black block, a gray block, and then four black blocks of varying widths.
- Third Row:** A long black block on the left, followed by a gray block, and then a long black block spanning the remaining width.
- Fourth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Fifth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Sixth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Seventh Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Eighth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Ninth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Tenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Eleventh Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Twelfth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Thirteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Fourteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Fifteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Sixteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Seventeenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Eighteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Nineteenth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.
- Twentieth Row:** A long black block on the left, followed by a white block, a black block, a white block, a black block, a white block, and a black block.

The diagram illustrates a building layout with a grid of rooms. The top row consists of seven rooms, each divided into a black upper half and a light gray lower half. The middle row features a long black room on the left and a long light gray room on the right. The bottom row contains six white rooms. A thick black horizontal bar runs across the top of the white rooms, and a thick black vertical bar runs down the left side of the white rooms.

The image displays a complex geometric pattern composed of various colored rectangles and squares. On the left side, there is a large black rectangle. To its right, a horizontal band of black and white squares spans the width of the image. The right side of the image features a grid of white and black squares, with some squares containing smaller black rectangles. The overall design is abstract and geometric, with a focus on color contrast and shape.

The image displays a complex geometric pattern composed of various colored rectangles and squares. On the left side, there is a large black rectangle. To its right, a horizontal band of black and white squares spans the width of the image. Below this band, a grid of white and black squares is visible. The pattern is characterized by sharp edges and a high contrast between the black and white areas.

The image displays a complex geometric pattern composed of a grid of squares and rectangles. The primary colors used are black, white, and a light gray. The pattern is defined by thin black lines that separate the individual sections. The layout is as follows:

- Top Row:** Consists of seven vertical columns. The first column on the left is a single large light gray rectangle. The remaining six columns are each divided into a black rectangle on top and a light gray rectangle on the bottom.
- Second Row:** A single horizontal black bar spanning the width of the six columns on the right.
- Third Row:** Consists of six vertical columns, each divided into a black rectangle on top and a white rectangle on the bottom.
- Fourth Row:** Consists of six vertical columns, each divided into a black rectangle on top and a white rectangle on the bottom.
- Bottom Section:** A large black area at the bottom left, and a single white rectangle at the bottom right, aligned with the rightmost column of the fourth row.

